



## SAFETY DATA SHEET

### **Metalhead / Metalhead 2 / Metalhead Refill**

- Black - 10601 / 10631 / 10601R
- Blue - 10602 / 10632 / 10602R
- Green - 10603 / 10633 / 10603R
- Red - 10604 / 10634 / 10604R
- White - 10605 / 10635 / 10605R
- Yellow - 10606 / 10636 / 10606R
- Orange - 10607 / 10637 / 10607R
- Silver - 10610 / 10640 / 10610R

# SAFETY DATA SHEET

Issuing Date 03-Feb-2020

Revision Date 03-Mar-2020

Revision Number 4

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product identifier

#### Product Code(s)

10601, 10631, 10601R

#### Product Name

Black Metalhead, Black Metalhead 2, Black Metalhead Refill

### Component

### Other means of identification

#### Other Information

This Safety Data Sheet complies with the requirements of the OSHA Hazard Communication Standard 2012 Final Rule. This product is intended for use by properly trained and qualified professionals after having familiarized themselves with this SDS and understand all hazards to themselves and the environment through a comprehensive training program according to the Hazard Communication Standard 29 CFR 1910.1200, and the Occupational Safety and Health adoption of the Global Harmonization Standard (GHS). Use of this product may present additional hazards, and no guarantee is implied that the hazards and necessary precautions listed in this document are the only ones present. Customers using this product are responsible for determining proper personal protection equipment according to the specific conditions, PPE listed are a minimum standard. This product is not intended for general public use.

### Recommended use of the chemical and restrictions on use

#### Recommended Use

Permanent marking.

#### Uses advised against

For professional use only.

### Details of the supplier of the safety data sheet

#### Manufacturer Address

U-Mark, Inc.  
102 Iowa Ave.  
Belleville, IL 62220

### Emergency telephone number

#### 24 Hour Emergency Phone Number

Infotrac 1-800-535-5053 (USA & Canada), 1-352-323-3500 (International)

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 2

### Label elements

#### Danger

#### Hazard statements

Causes serious eye irritation  
May cause cancer  
May cause drowsiness or dizziness  
Highly flammable liquid and vapor

**Appearance** Paint**Physical state** liquid**Odor** Aromatic**Precautionary Statements**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Wash face, hands and any exposed skin thoroughly after handling  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Keep container tightly closed  
 Ground/bond container and receiving equipment  
 Use explosion-proof electrical/ ventilating / lighting/ non-sparking/ equipment  
 Use only non-sparking tools  
 Take precautionary measures against static discharge  
 Keep cool

**Precautionary Statements - Response**

IF exposed: Call a POISON CENTER or doctor/physician  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish

**Precautionary Statements - Storage**

Store locked up  
 Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Other Information**

Harmful to aquatic life

**Unknown acute toxicity**

9.9 % of the mixture consists of ingredient(s) of unknown toxicity

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Mixture**

Chemical Name	CAS No.	Weight-%
ethyl acetate	141-78-6	40
Nitrocellulose	9004-70-0	11
n-butyl acetate	123-86-4	7
2-Butanone	78-93-3	6
Carbon black	1333-86-4	3

ethanol	64-17-5	1.067
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#### 4. FIRST AID MEASURES

##### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Call 911 or emergency medical service. Immediately call a POISON CENTER or doctor/physician. Use first aid treatment according to the nature of the injury.
<b>Inhalation</b>	Remove to fresh air. IF exposed or concerned: Get medical advice/attention. Administer oxygen if breathing is difficult. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician. Unconscious persons should be moved to an uncontaminated area and, as necessary, given artificial resuscitation and supplemental oxygen.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Remove material from skin immediately. Wash off immediately with soap and plenty of water for at least 15 minutes. Do not use solvents or thinners to dissolve the material. Take off contaminated clothing and wash before reuse. Get medical attention immediately if symptoms occur. Allergic symptoms may be delayed.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.
<b>Self-protection of the first aider</b>	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

##### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Burning sensation. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Symptoms may include headache, dizziness, thirst, cramping, coughing, and nausea. These symptoms may be delayed. Repeated or prolonged exposure may cause kidney, liver, neurological, central nervous system, eye and skin disorders. See Section 11 for additional Toxicological Information. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Vapors may cause drowsiness and dizziness.
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##### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Treat symptomatically. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. May cause sensitization in susceptible persons.
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#### 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam. Dry chemical, CO <sub>2</sub> , alcohol-resistant foam or water spray. Use water spray or fog; do not use straight streams. Dry sand. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	CAUTION: Use of water spray when fighting fire may be inefficient.

<b>Specific hazards arising from the chemical</b>	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. May be ignited by heat, sparks or flames. Vapors may form explosive mixture with air. Vapors may travel to source of ignition and flash back. In the event of fire and/or explosion do not breathe fumes. Containers may explode when heated. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire may produce irritating, corrosive and/or toxic gases.
<b>Hazardous combustion products</b>	Carbon monoxide. Carbon dioxide (CO <sub>2</sub> ). Hydrocarbons. Nitrogen oxides (NO <sub>x</sub> ).
<b>Explosion data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	Yes.
<b>Special protective equipment for fire-fighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Use only non-sparking tools.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Full encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Wear protective gloves/protective clothing and eye/face protection.

**Other Information** Ventilate the area. Refer to protective measures listed in Sections 7 and 8. Water spray may reduce vapor; but may not prevent ignition in closed spaces.

### Environmental precautions

**Environmental precautions** Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional Ecological Information. Dispose of this material and its container to hazardous or special waste collection point. Prevent entry into waterways, sewers, basements or confined areas.

### Methods and material for containment and cleaning up

**Methods for containment** Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Prevent further leakage or spillage if safe to do so. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Dike to collect large liquid spills.

**Methods for cleaning up** Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Place in appropriate chemical waste container. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Use clean non-sparking tools to collect absorbed material. Use personal protective equipment as required.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**Reference to other sections** See section 8 for more information. See section 13 for more information.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### Advice on safe handling

Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. In case of insufficient ventilation, wear suitable respiratory equipment. Ensure adequate ventilation. Wash thoroughly after handling. Do not breathe dust/fume/gas/mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking and explosion proof. Remove all sources of ignition. Remove contaminated clothing and shoes.

### Conditions for safe storage, including any incompatibilities

#### Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep/store only in original container. Keep away from open flames, hot surfaces and sources of ignition. Keep out of the reach of children. Store locked up.

#### Packaging materials

use only with original package - do not repackage.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Exposure Limits

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
ethyl acetate 141-78-6	TWA: 400 ppm	TWA: 400 ppm TWA: 1400 mg/m <sup>3</sup> (vacated) TWA: 400 ppm (vacated) TWA: 1400 mg/m <sup>3</sup>	IDLH: 2000 ppm TWA: 400 ppm TWA: 1400 mg/m <sup>3</sup>
n-butyl acetate 123-86-4	STEL: 200 ppm TWA: 150 ppm	TWA: 150 ppm TWA: 710 mg/m <sup>3</sup> (vacated) TWA: 150 ppm (vacated) TWA: 710 mg/m <sup>3</sup> (vacated) STEL: 200 ppm (vacated) STEL: 950 mg/m <sup>3</sup>	IDLH: 1700 ppm TWA: 150 ppm TWA: 710 mg/m <sup>3</sup> STEL: 200 ppm STEL: 950 mg/m <sup>3</sup>
2-Butanone 78-93-3	STEL: 300 ppm TWA: 200 ppm	TWA: 200 ppm TWA: 590 mg/m <sup>3</sup> (vacated) TWA: 200 ppm (vacated) TWA: 590 mg/m <sup>3</sup> (vacated) STEL: 300 ppm (vacated) STEL: 885 mg/m <sup>3</sup>	IDLH: 3000 ppm TWA: 200 ppm TWA: 590 mg/m <sup>3</sup> STEL: 300 ppm STEL: 885 mg/m <sup>3</sup>
Carbon black 1333-86-4	TWA: 3 mg/m <sup>3</sup> inhalable fraction	TWA: 3.5 mg/m <sup>3</sup> (vacated) TWA: 3.5 mg/m <sup>3</sup>	IDLH: 1750 mg/m <sup>3</sup> TWA: 3.5 mg/m <sup>3</sup>

			TWA: 0.1 mg/m <sup>3</sup> Carbon black in presence of Polycyclic aromatic hydrocarbons PAH
ethanol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup> (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m <sup>3</sup>	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>

**Other Information** This product may also contain pigments that are otherwise non hazardous according to the US GHS: REFER TO ACGIH TLV NUISANCE PARTICULATE GUIDANCE OF 10mg/m<sup>3</sup> , 3 mg/m<sup>3</sup> respirable fraction; OSHA PEL 15mg/m<sup>3</sup> total dust, 5mg/m<sup>3</sup> respirable fraction.

**Appropriate engineering controls**

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.

**Hand Protection** Wear suitable gloves. Impervious gloves. Wear nitrile or natural rubber gloves to protect hands from contact. Butyl gloves are best for prolonged contact.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots. Impervious clothing such as Tyvek(R) coveralls for light protection or Saranex(R) 23-P for moderate protection.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. Adequate ventilation should be used as the first measure to ensure airborne thresholds listed in section 8 of this SDS are not exceeded. If respirators are used, they should be used in accordance with the Hazard Communication Standard.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

**Physical state** liquid  
**Appearance** Paint  
**Odor** Aromatic  
**Color** black  
**Odor threshold** No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	na	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	127 °C / 261 °F	None known
Flash point	-3 °C / 27 °F	
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability	No data available	

<b>limit:</b>		<b>Lower flammability limit:</b>	No data available
<b>Vapor pressure</b>	No data available	None known	
<b>Vapor density</b>	No data available	None known	
<b>Relative density</b>	No data available	None known	
<b>Water solubility</b>	No data available	None known	
<b>Solubility in other solvents</b>	No data available	None known	
<b>Partition coefficient</b>	No data available	None known	
<b>Autoignition temperature</b>	No data available	None known	
<b>Decomposition temperature</b>	No data available	None known	
<b>Kinematic viscosity</b>	No data available	None known	
<b>Dynamic viscosity</b>	No data available	None known	
<b>Explosive properties</b>	No information available		
<b>Oxidizing properties</b>	No information available		
<b><u>Other Information</u></b>			
<b>Softening point</b>	No information available		
<b>Molecular weight</b>	No information available		
<b>Specific gravity</b>	1		
<b>Non-Volatile (%)</b>	41 %		
<b>VOC Content (g/l)</b>	590		
<b>Density</b>	8.27 lbs/gal		
<b>Bulk density</b>	No information available		

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	None under normal processing.
<b>Conditions to avoid</b>	Heat, flames and sparks.
<b>Incompatible materials</b>	Strong acids. Strong bases. Do not store together with acids, oxidizing substances, strong alkalis, or heavy-metal compounds.
<b>Hazardous decomposition products</b>	Carbon oxides. Nitrogen oxides (NOx). Thermal decomposition can lead to release of irritating and toxic gases and vapors.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. May cause drowsiness or dizziness.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.



Chemical Name	Acute toxicity - Oral	Oral LD50	Acute toxicity - Dermal	LD50/dermal/rat - mg/kg
ethyl acetate 141-78-6		= 5620 mg/kg ( Rat )		> 18000 mg/kg ( Rabbit ) > 20 mL/kg ( Rabbit )
Nitrocellulose 9004-70-0		> 5 g/kg ( Rat )		
n-butyl acetate 123-86-4		= 10768 mg/kg ( Rat )		> 17600 mg/kg ( Rabbit )
2-Butanone 78-93-3		= 2483 mg/kg ( Rat ) = 2737 mg/kg ( Rat )		= 5000 mg/kg ( Rabbit ) = 6480 mg/kg ( Rabbit )
Carbon black 1333-86-4		> 15400 mg/kg ( Rat )		> 3 g/kg ( Rabbit )
ethanol 64-17-5		= 7060 mg/kg ( Rat )		

Chemical Name	Physical state	Acute toxicity - Inhalation (Dusts/Mists)	Acute toxicity - Inhalation (Gases)	Acute toxicity - Inhalation (Vapors)	Inhalation LC50	LC50 Inh 1-hr Vapor rat/rabbit (no units)	Inhalation LC50 - 4 hour - vapor - mg/L
ethyl acetate 141-78-6	liquid				-	-	-
n-butyl acetate 123-86-4	liquid				= 390 ppm ( Rat ) 4 h	780	1.8527
2-Butanone 78-93-3	liquid				= 11700 ppm ( Rat ) 4 h	23400	34.5018
Carbon black 1333-86-4	solid				-	-	-
ethanol 64-17-5	liquid				= 124.7 mg/L ( Rat ) 4 h	-	-

Chemical Name	Acute aquatic toxicity	M-Factor	Chronic aquatic toxicity	M-Factor
ethyl acetate 141-78-6		-	Not classified	-
n-butyl acetate 123-86-4	Category 3	-	Category 3	-
2-Butanone 78-93-3		-	Not classified	-
ethanol 64-17-5	Category 2	-	Category 2	-

Chemical Name	Eyes	Respiratory sensitization	Skin sensitization	Mutagenicity	Mutagenic category 1
ethyl acetate 141-78-6	Category 2				
2-Butanone 78-93-3	Category 2				

Chemical Name	NIOSH - Target Organs	STOT - single exposure	Target Organ Systemic Toxicant - Repeated exposure	Aspiration toxicity	Ozone
ethyl acetate 141-78-6	eyes,respiratory system,skin	H336 - May cause drowsiness or dizziness Category 3			
n-butyl acetate 123-86-4	eyes,CNS,respiratory system,skin	H336 - May cause drowsiness or			

		dizziness Category 3			
2-Butanone 78-93-3	eyes,CNS,respiratory system,skin	H336 - May cause drowsiness or dizziness Category 3			
Carbon black 1333-86-4	eyes,respiratory system lymphatic cancer in presence of PAHs				
ethanol 64-17-5	eyes,respiratory system,CNS,liver,skin,blood,reproductive system				

**Information on toxicological effects**

**Symptoms** May cause redness and tearing of the eyes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

**Numerical measures of toxicity****Acute toxicity**

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	7,979.00 mg/kg
ATEmix (dermal)	26,196.00 mg/kg
ATEmix (inhalation-dust/mist)	11,687.00 mg/l
ATEmix (inhalation-vapor)	521.00 mg/l

**Unknown acute toxicity** 9.9 % of the mixture consists of ingredient(s) of unknown toxicity

**Component Information**

Chemical Name	Oral LD50	LD50/dermal/rat - mg/kg	Inhalation LC50
ethyl acetate 141-78-6	= 5620 mg/kg ( Rat )	> 18000 mg/kg ( Rabbit ) > 20 mL/kg ( Rabbit )	-
Nitrocellulose 9004-70-0	> 5 g/kg ( Rat )	-	-
n-butyl acetate 123-86-4	= 10768 mg/kg ( Rat )	> 17600 mg/kg ( Rabbit )	= 390 ppm ( Rat ) 4 h
2-Butanone 78-93-3	= 2483 mg/kg ( Rat ) = 2737 mg/kg ( Rat )	= 5000 mg/kg ( Rabbit ) = 6480 mg/kg ( Rabbit )	= 11700 ppm ( Rat ) 4 h
Carbon black 1333-86-4	> 15400 mg/kg ( Rat )	> 3 g/kg ( Rabbit )	-
ethanol 64-17-5	= 7060 mg/kg ( Rat )	-	= 124.7 mg/L ( Rat ) 4 h

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Skin corrosion/irritation</b>	May cause skin irritation.
<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Irritating to eyes.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	Classification based on data available for ingredients. Contains a known or suspected carcinogen.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
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Nitrocellulose 9004-70-0	-	Group 2A	-	X
Carbon black 1333-86-4	A3	Group 2B	-	X
ethanol 64-17-5	A3	Group 1	Known	X

**Legend**

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	May cause drowsiness or dizziness.
<b>Target Organ Systemic Toxicant - Repeated exposure</b>	No information available.
<b>Target organ effects</b>	liver, Respiratory system, Eyes, Skin, Central nervous system, blood, Reproductive System, lungs, Lymphatic System.
<b>Aspiration hazard</b>	No information available.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
ethyl acetate 141-78-6	3300: 48 h Desmodesmus subspicatus mg/L EC50	220 - 250: 96 h Pimephales promelas mg/L LC50 flow-through 484: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 352 - 500: 96 h Oncorhynchus mykiss mg/L LC50 semi-static	-	560: 48 h Daphnia magna mg/L EC50 Static
n-butyl acetate 123-86-4	674.7: 72 h Desmodesmus subspicatus mg/L EC50	100: 96 h Lepomis macrochirus mg/L LC50 static 17 - 19: 96 h Pimephales promelas mg/L LC50 flow-through 62: 96 h Leuciscus idus mg/L LC50 static	-	72.8: 24 h Daphnia magna mg/L EC50
2-Butanone 78-93-3	-	3130 - 3320: 96 h Pimephales promelas mg/L LC50 flow-through	-	520: 48 h Daphnia magna mg/L EC50 5091: 48 h Daphnia magna mg/L EC50 4025 - 6440: 48 h Daphnia magna mg/L EC50 Static
Carbon black 1333-86-4	-	-	-	5600: 24 h Daphnia magna mg/L EC50
ethanol 64-17-5	-	12.0 - 16.0: 96 h Oncorhynchus mykiss	-	9268 - 14221: 48 h Daphnia magna mg/L

		mL/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through		LC50 2: 48 h Daphnia magna mg/L EC50 Static 10800: 24 h Daphnia magna mg/L EC50
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**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

#### Component Information

Chemical Name	Partition coefficient	DOT Marine Pollutant	DOT Severe Marine pollutant
ethyl acetate 141-78-6	0.6		
n-butyl acetate 123-86-4	1.81		
2-Butanone 78-93-3	0.29		
ethanol 64-17-5	-0.32		

**Other adverse effects** No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

**Waste from residues/unused products** Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

**US EPA Waste Number** D001, U112 U154 U161

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
ethyl acetate 141-78-6	-	Included in waste stream: F039	-	U112
2-Butanone 78-93-3	U159	Included in waste streams: F005, F039	200.0 mg/L regulatory level	U159

**California Hazardous Waste Status** This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
ethyl acetate 141-78-6	Toxic Ignitable
Nitrocellulose 9004-70-0	Ignitable Reactive
n-butyl acetate 123-86-4	Toxic
2-Butanone 78-93-3	Toxic Ignitable
ethanol 64-17-5	Toxic Ignitable

<b>14. TRANSPORT INFORMATION</b>
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**DOT**

UN/ID no.	UN1210
Proper shipping name	PRINTING INK
Hazard Class	3
Packing Group	II
Special Provisions	149, IB2, T4, TP1, TP8, 367
Description	UN1210, PRINTING INK, 3, II
Emergency Response Guide Number	129

**TDG**

UN/ID no.	UN1210
Proper shipping name	PRINTING INK
Hazard Class	3
Packing Group	II
Description	UN1210, PRINTING INK, 3, II

**MEX**

UN/ID no.	UN1210
Proper shipping name	PRINTING INK
Hazard Class	3
Special Provisions	163
Packing Group	II
Description	UN1210, PRINTING INK, 3, II

**ICAO (air)**

UN/ID no.	UN1210
Proper shipping name	PRINTING INK
Hazard Class	3
Packing Group	II
Special Provisions	A3, A72, A192
Description	UN1210, PRINTING INK, 3, II

**IATA**

UN/ID no.	UN1210
Hazard Class	3
Packing Group	II
ERG Code	3L
Description	&UN1210, &, 3, II

**IMDG**

UN/ID no.	UN1210
Hazard Class	3
Packing Group	II
EmS-No.	F-E, S-D
Special Provisions	163 367
Description	&UN1210, &, 3, II, (-3°C C.C.)

**RID**

UN/ID no.	UN1210
Proper shipping name	PRINTING INK
Hazard Class	3
Packing Group	II
Classification code	F1
Description	UN1210, PRINTING INK, 3, II
Labels	3

**ADR**

UN/ID no.	UN1210
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**Proper shipping name** PRINTING INK  
**Hazard Class** 3  
**Packing Group** II  
**Classification code** F1  
**Tunnel restriction code** (D/E)  
**Special Provisions** 163, 640C, 367  
**Description** UN1210, PRINTING INK, 3, II  
**Labels** 3

**ADN**

**Proper shipping name** PRINTING INK  
**Hazard Class** 3  
**Packing Group** II  
**Classification code** F1  
**Special Provisions** 163, 640C  
**Description** UN1210, PRINTING INK, 3, II  
**Hazard label(s)** 3  
**Limited quantity (LQ)** 5 L  
**Ventilation** VE01

**15. REGULATORY INFORMATION**

**International Inventories**

**TSCA** Complies  
**DSL/NDSL** Complies  
**EINECS/ELINCS** Complies

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

**Acute health hazard** Yes  
**Chronic Health Hazard** Yes  
**Fire hazard** Yes  
**Sudden release of pressure hazard** No  
**Reactive Hazard** No

**CAA (Clean Air Act)**

The following component(s) are listed in the Clean Air Act.

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
n-butyl acetate 123-86-4	5000 lb	-	-	X

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
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ethyl acetate 141-78-6	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
n-butyl acetate 123-86-4	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
2-Butanone 78-93-3	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

**WARNING!**

This product can expose you to chemicals including those listed below, which is [are] known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

Chemical Name	California Proposition 65
Carbon black - 1333-86-4	Carcinogen
ethanol - 64-17-5	Carcinogen Developmental
4-methylpentan-2-one - 108-10-1	Carcinogen Developmental
methanol - 67-56-1	Developmental

**U.S. State Right-to-Know Regulations****US State Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
ethyl acetate 141-78-6	X	X	X
Nitrocellulose 9004-70-0	X	X	X
n-butyl acetate 123-86-4	X	X	X
2-Butanone 78-93-3	X	X	X
Carbon black 1333-86-4	X	X	X
ethanol 64-17-5	X	X	X

**U.S. EPA Label Information****16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

<b>NFPA</b>	Health hazards 2	Flammability 3	Instability 0	Physical and chemical properties -
<b>HMIS</b>	Health hazards 2 *	Flammability 3	Physical hazards 0	Personal protection X
<i>Chronic Hazard Star Legend</i>	<i>* = Chronic Health Hazard</i>			

**Prepared By** compliance@umarkers.com

**Revision Date** 03-Mar-2020

**Revision Note** SDS sections updated.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information

relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. No express or implied warranty of merchantability or fitness for a particular purpose or use, with respect to the product information provided herein is given. The manufacturer disclosed in section 1 shall under no circumstance be liable for incidental or consequential damage nor makes any representation as to the information's accuracy or sufficiency. All suitability of use and safe handling of this product is upon the user. This product is not to be repackaged. Any re-sale or repackaging of this product is a violation of the original terms of sale, and the manufacturer shall not be held responsible whatsoever for the product or use thereof.

**End of Safety Data Sheet**



# SAFETY DATA SHEET

Issuing Date 07-Feb-2020

Revision Date 03-Mar-2020

Revision Number 4

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product identifier

#### Product Code(s)

10602, 10632, 10602R

#### Product Name

Blue Metalhead, Blue Metalhead 2, Blue Metalhead Refill

### Component

### Other means of identification

#### Other Information

This Safety Data Sheet complies with the requirements of the OSHA Hazard Communication Standard 2012 Final Rule. This product is intended for use by properly trained and qualified professionals after having familiarized themselves with this SDS and understand all hazards to themselves and the environment through a comprehensive training program according to the Hazard Communication Standard 29 CFR 1910.1200, and the Occupational Safety and Health adoption of the Global Harmonization Standard (GHS). Use of this product may present additional hazards, and no guarantee is implied that the hazards and necessary precautions listed in this document are the only ones present. Customers using this product are responsible for determining proper personal protection equipment according to the specific conditions, PPE listed are a minimum standard. This product is not intended for general public use.

### Recommended use of the chemical and restrictions on use

#### Recommended Use

Permanent marking.

#### Uses advised against

For professional use only.

### Details of the supplier of the safety data sheet

#### Manufacturer Address

U-Mark, Inc.  
102 Iowa Ave.  
Belleville, IL 62220

### Emergency telephone number

#### 24 Hour Emergency Phone Number

Infotrac 1-800-535-5053 (USA & Canada), 1-352-323-3500 (International)

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 2

### Label elements

#### Danger

#### Hazard statements

Causes serious eye irritation  
May cause cancer  
May cause drowsiness or dizziness  
Highly flammable liquid and vapor

**Appearance** Paint**Physical state** liquid**Odor** Aromatic**Precautionary Statements**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Wash face, hands and any exposed skin thoroughly after handling  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Keep container tightly closed  
 Ground/bond container and receiving equipment  
 Use explosion-proof electrical/ ventilating / lighting/ non-sparking/ equipment  
 Use only non-sparking tools  
 Take precautionary measures against static discharge  
 Keep cool

**Precautionary Statements - Response**

IF exposed: Call a POISON CENTER or doctor/physician  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish

**Precautionary Statements - Storage**

Store locked up  
 Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Other Information**

Harmful to aquatic life

**Unknown acute toxicity**

12.9 % of the mixture consists of ingredient(s) of unknown toxicity

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Mixture**

Chemical Name	CAS No.	Weight-%
ethyl acetate	141-78-6	36
Nitrocellulose	9004-70-0	11
n-butyl acetate	123-86-4	7
2-Butanone	78-93-3	6
titanium dioxide	13463-67-7	5.4

Phthalocyanine Blue - EINECS Listed	147-14-8	3
ethanol	64-17-5	1.067

#### 4. FIRST AID MEASURES

##### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Call 911 or emergency medical service. Immediately call a POISON CENTER or doctor/physician. Use first aid treatment according to the nature of the injury.
<b>Inhalation</b>	Remove to fresh air. IF exposed or concerned: Get medical advice/attention. Administer oxygen if breathing is difficult. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician. Unconscious persons should be moved to an uncontaminated area and, as necessary, given artificial resuscitation and supplemental oxygen.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Remove material from skin immediately. Wash off immediately with soap and plenty of water for at least 15 minutes. Do not use solvents or thinners to dissolve the material. Take off contaminated clothing and wash before reuse. Get medical attention immediately if symptoms occur. Allergic symptoms may be delayed.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.
<b>Self-protection of the first aider</b>	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

##### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Burning sensation. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Symptoms may include headache, dizziness, thirst, cramping, coughing, and nausea. These symptoms may be delayed. Repeated or prolonged exposure may cause kidney, liver, neurological, central nervous system, eye and skin disorders. See Section 11 for additional Toxicological Information. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Vapors may cause drowsiness and dizziness.
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##### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Treat symptomatically. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. May cause sensitization in susceptible persons.
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#### 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam. Dry chemical, CO <sub>2</sub> , alcohol-resistant foam or water spray. Use water spray or fog; do not use straight streams. Dry sand. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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<b>Unsuitable extinguishing media</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Specific hazards arising from the chemical</b>	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. May be ignited by heat, sparks or flames. Vapors may form explosive mixture with air. Vapors may travel to source of ignition and flash back. In the event of fire and/or explosion do not breathe fumes. Containers may explode when heated. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire may produce irritating, corrosive and/or toxic gases.
<b>Hazardous combustion products</b>	Carbon monoxide. Carbon dioxide (CO <sub>2</sub> ). Hydrocarbons. Nitrogen oxides (NO <sub>x</sub> ).
<b>Explosion data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	Yes.
<b>Special protective equipment for fire-fighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Use only non-sparking tools.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Full encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Wear protective gloves/protective clothing and eye/face protection.
<b>Other Information</b>	Ventilate the area. Refer to protective measures listed in Sections 7 and 8. Water spray may reduce vapor; but may not prevent ignition in closed spaces.

### Environmental precautions

<b>Environmental precautions</b>	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional Ecological Information. Dispose of this material and its container to hazardous or special waste collection point. Prevent entry into waterways, sewers, basements or confined areas.
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### Methods and material for containment and cleaning up

<b>Methods for containment</b>	Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Prevent further leakage or spillage if safe to do so. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Dike to collect large liquid spills.
<b>Methods for cleaning up</b>	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Place in appropriate chemical waste container. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Use clean non-sparking tools to collect absorbed material. Use personal protective equipment as required.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### Advice on safe handling

Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. In case of insufficient ventilation, wear suitable respiratory equipment. Ensure adequate ventilation. Wash thoroughly after handling. Do not breathe dust/fume/gas/mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking and explosion proof. Remove all sources of ignition. Remove contaminated clothing and shoes.

### Conditions for safe storage, including any incompatibilities

#### Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep/store only in original container. Keep away from open flames, hot surfaces and sources of ignition. Keep out of the reach of children. Store locked up.

#### Packaging materials

use only with original package - do not repackage.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Exposure Limits

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
ethyl acetate 141-78-6	TWA: 400 ppm	TWA: 400 ppm TWA: 1400 mg/m <sup>3</sup> (vacated) TWA: 400 ppm (vacated) TWA: 1400 mg/m <sup>3</sup>	IDLH: 2000 ppm TWA: 400 ppm TWA: 1400 mg/m <sup>3</sup>
n-butyl acetate 123-86-4	STEL: 200 ppm TWA: 150 ppm	TWA: 150 ppm TWA: 710 mg/m <sup>3</sup> (vacated) TWA: 150 ppm (vacated) TWA: 710 mg/m <sup>3</sup> (vacated) STEL: 200 ppm (vacated) STEL: 950 mg/m <sup>3</sup>	IDLH: 1700 ppm TWA: 150 ppm TWA: 710 mg/m <sup>3</sup> STEL: 200 ppm STEL: 950 mg/m <sup>3</sup>
2-Butanone 78-93-3	STEL: 300 ppm TWA: 200 ppm	TWA: 200 ppm TWA: 590 mg/m <sup>3</sup> (vacated) TWA: 200 ppm (vacated) TWA: 590 mg/m <sup>3</sup> (vacated) STEL: 300 ppm (vacated) STEL: 885 mg/m <sup>3</sup>	IDLH: 3000 ppm TWA: 200 ppm TWA: 590 mg/m <sup>3</sup> STEL: 300 ppm STEL: 885 mg/m <sup>3</sup>
titanium dioxide	TWA: 10 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup> total dust	IDLH: 5000 mg/m <sup>3</sup>

13463-67-7		(vacated) TWA: 10 mg/m <sup>3</sup> total dust	
Phthalocyanine Blue - EINECS Listed 147-14-8	TWA: 1 mg/m <sup>3</sup> Cu dust and mist	-	IDLH: 100 mg/m <sup>3</sup> Cu dust and mist TWA: 1 mg/m <sup>3</sup> Cu dust and mist
ethanol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup> (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m <sup>3</sup>	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>

**Other Information**

This product may also contain pigments that are otherwise non hazardous according to the US GHS: REFER TO ACGIH TLV NUISANCE PARTICULATE GUIDANCE OF 10mg/m<sup>3</sup>, 3 mg/m<sup>3</sup> respirable fraction; OSHA PEL 15mg/m<sup>3</sup> total dust, 5mg/m<sup>3</sup> respirable fraction.

**Appropriate engineering controls****Engineering controls**

Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Tight sealing safety goggles.

**Hand Protection**

Wear suitable gloves. Impervious gloves. Wear nitrile or natural rubber gloves to protect hands from contact. Butyl gloves are best for prolonged contact.

**Skin and body protection**

Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots. Impervious clothing such as Tyvek(R) coveralls for light protection or Saranex(R) 23-P for moderate protection.

**Respiratory protection**

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. Adequate ventilation should be used as the first measure to ensure airborne thresholds listed in section 8 of this SDS are not exceeded. If respirators are used, they should be used in accordance with the Hazard Communication Standard.

**General hygiene considerations**

Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<b>Physical state</b>	liquid
<b>Appearance</b>	Paint
<b>Odor</b>	Aromatic
<b>Color</b>	blue
<b>Odor threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	na	
<b>Melting point / freezing point</b>	No data available	None known
<b>Boiling point / boiling range</b>	127 °C / 261 °F	None known
<b>Flash point</b>	-3 °C / 27 °F	
<b>Evaporation rate</b>	No data available	None known

<b>Flammability (solid, gas)</b>	No data available	None known	
<b>Flammability Limit in Air</b>		None known	
<b>Upper flammability limit:</b>	No data available	<b>Lower flammability limit:</b>	No data available
<b>Vapor pressure</b>	No data available	None known	
<b>Vapor density</b>	No data available	None known	
<b>Relative density</b>	No data available	None known	
<b>Water solubility</b>	No data available	None known	
<b>Solubility in other solvents</b>	No data available	None known	
<b>Partition coefficient</b>	No data available	None known	
<b>Autoignition temperature</b>	No data available	None known	
<b>Decomposition temperature</b>	No data available	None known	
<b>Kinematic viscosity</b>	No data available	None known	
<b>Dynamic viscosity</b>	No data available	None known	
<b>Explosive properties</b>	No information available		
<b>Oxidizing properties</b>	No information available		
<b>Other Information</b>			
<b>Softening point</b>	No information available		
<b>Molecular weight</b>	No information available		
<b>Specific gravity</b>	1.05		
<b>Non-Volatile (%)</b>	45 %		
<b>VOC Content (g/l)</b>	572		
<b>Density</b>	8.72 lbs/gal		
<b>Bulk density</b>	No information available		

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	None under normal processing.
<b>Conditions to avoid</b>	Heat, flames and sparks.
<b>Incompatible materials</b>	Strong acids. Strong bases. Do not store together with acids, oxidizing substances, strong alkalis, or heavy-metal compounds.
<b>Hazardous decomposition products</b>	Carbon oxides. Nitrogen oxides (NOx). Thermal decomposition can lead to release of irritating and toxic gases and vapors.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. May cause drowsiness or dizziness.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause

gastrointestinal irritation, nausea, vomiting and diarrhea.

Chemical Name	Acute toxicity - Oral	Oral LD50	Acute toxicity - Dermal	LD50/dermal/rat - mg/kg
ethyl acetate 141-78-6		= 5620 mg/kg ( Rat )		> 18000 mg/kg ( Rabbit ) > 20 mL/kg ( Rabbit )
Nitrocellulose 9004-70-0		> 5 g/kg ( Rat )		
n-butyl acetate 123-86-4		= 10768 mg/kg ( Rat )		> 17600 mg/kg ( Rabbit )
2-Butanone 78-93-3		= 2483 mg/kg ( Rat ) = 2737 mg/kg ( Rat )		= 5000 mg/kg ( Rabbit ) = 6480 mg/kg ( Rabbit )
titanium dioxide 13463-67-7		> 10000 mg/kg ( Rat )		
ethanol 64-17-5		= 7060 mg/kg ( Rat )		

Chemical Name	Physical state	Acute toxicity - Inhalation (Dusts/Mists)	Acute toxicity - Inhalation (Gases)	Acute toxicity - Inhalation (Vapors)	Inhalation LC50	LC50 Inh 1-hr Vapor rat/rabbit (no units)	Inhalation LC50 - 4 hour - vapor - mg/L
ethyl acetate 141-78-6	liquid				-	-	-
n-butyl acetate 123-86-4	liquid				= 390 ppm ( Rat ) 4 h	780	1.8527
2-Butanone 78-93-3	liquid				= 11700 ppm ( Rat ) 4 h	23400	34.5018
titanium dioxide 13463-67-7	solid				-	-	-
ethanol 64-17-5	liquid				= 124.7 mg/L ( Rat ) 4 h	-	-

Chemical Name	Acute aquatic toxicity	M-Factor	Chronic aquatic toxicity	M-Factor
ethyl acetate 141-78-6		-	Not classified	-
n-butyl acetate 123-86-4	Category 3	-	Category 3	-
2-Butanone 78-93-3		-	Not classified	-
Phthalocyanine Blue - EINECS Listed 147-14-8		-	Not classified	-
ethanol 64-17-5	Category 2	-	Category 2	-

Chemical Name	Eyes	Respiratory sensitization	Skin sensitization	Mutagenicity	Mutagenic category 1
ethyl acetate 141-78-6	Category 2				
2-Butanone 78-93-3	Category 2				

Chemical Name	NIOSH - Target Organs	STOT - single exposure	Target Organ Systemic Toxicant - Repeated exposure	Aspiration toxicity	Ozone
ethyl acetate	eyes,respiratory	H336 - May cause			



141-78-6	system,skin	drowsiness or dizziness Category 3			
n-butyl acetate 123-86-4	eyes,CNS,respiratory system,skin	H336 - May cause drowsiness or dizziness Category 3			
2-Butanone 78-93-3	eyes,CNS,respiratory system,skin	H336 - May cause drowsiness or dizziness Category 3			
titanium dioxide 13463-67-7	respiratory system in animals: lung tumors				
Phthalocyanine Blue - EINECS Listed 147-14-8	eyes,kidneys,liver, respiratory system,skin dust and mist, increased risk with Wilson's disease				
ethanol 64-17-5	eyes,respiratory system,CNS,liver,skin,blood,reproductive system				

#### Information on toxicological effects

##### Symptoms

May cause redness and tearing of the eyes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

#### Numerical measures of toxicity

##### Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	7,047.00 mg/kg
ATEmix (dermal)	24,226.00 mg/kg
ATEmix (inhalation-dust/mist)	10,179.40 mg/l
ATEmix (inhalation-vapor)	454.00 mg/l

##### Unknown acute toxicity

12.9 % of the mixture consists of ingredient(s) of unknown toxicity

#### Component Information

Chemical Name	Oral LD50	LD50/dermal/rat - mg/kg	Inhalation LC50
ethyl acetate 141-78-6	= 5620 mg/kg ( Rat )	> 18000 mg/kg ( Rabbit ) > 20 mL/kg ( Rabbit )	-
Nitrocellulose 9004-70-0	> 5 g/kg ( Rat )	-	-
n-butyl acetate 123-86-4	= 10768 mg/kg ( Rat )	> 17600 mg/kg ( Rabbit )	= 390 ppm ( Rat ) 4 h
2-Butanone 78-93-3	= 2483 mg/kg ( Rat ) = 2737 mg/kg ( Rat )	= 5000 mg/kg ( Rabbit ) = 6480 mg/kg ( Rabbit )	= 11700 ppm ( Rat ) 4 h
titanium dioxide 13463-67-7	> 10000 mg/kg ( Rat )	-	-
ethanol 64-17-5	= 7060 mg/kg ( Rat )	-	= 124.7 mg/L ( Rat ) 4 h

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

##### Skin corrosion/irritation

May cause skin irritation.

##### Serious eye damage/eye irritation

Classification based on data available for ingredients. Irritating to eyes.

<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	Classification based on data available for ingredients. Contains a known or suspected carcinogen.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Nitrocellulose 9004-70-0	-	Group 2A	-	X
titanium dioxide 13463-67-7	-	Group 2B	-	X
ethanol 64-17-5	A3	Group 1	Known	X

#### Legend

**ACGIH (American Conference of Governmental Industrial Hygienists)**

**IARC (International Agency for Research on Cancer)**

**NTP (National Toxicology Program)**

**OSHA (Occupational Safety and Health Administration of the US Department of Labor)**

<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	May cause drowsiness or dizziness.
<b>Target Organ Systemic Toxicant - Repeated exposure</b>	No information available.
<b>Target organ effects</b>	liver, Respiratory system, Eyes, Skin, Central nervous system, blood, Reproductive System, lungs, Lymphatic System, kidney.
<b>Aspiration hazard</b>	No information available.

## 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
ethyl acetate 141-78-6	3300: 48 h Desmodesmus subspicatus mg/L EC50	220 - 250: 96 h Pimephales promelas mg/L LC50 flow-through 484: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 352 - 500: 96 h Oncorhynchus mykiss mg/L LC50 semi-static	-	560: 48 h Daphnia magna mg/L EC50 Static
n-butyl acetate 123-86-4	674.7: 72 h Desmodesmus subspicatus mg/L EC50	100: 96 h Lepomis macrochirus mg/L LC50 static 17 - 19: 96 h Pimephales promelas mg/L LC50 flow-through 62: 96 h Leuciscus idus mg/L LC50 static	-	72.8: 24 h Daphnia magna mg/L EC50

2-Butanone 78-93-3	-	3130 - 3320: 96 h Pimephales promelas mg/L LC50 flow-through	-	520: 48 h Daphnia magna mg/L EC50 5091: 48 h Daphnia magna mg/L EC50 4025 - 6440: 48 h Daphnia magna mg/L EC50 Static
Phthalocyanine Blue - EINECS Listed 147-14-8	-	100: 48 h Oryzias latipes mg/L LC50 static	-	-
ethanol 64-17-5	-	12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through	-	9268 - 14221: 48 h Daphnia magna mg/L LC50 2: 48 h Daphnia magna mg/L EC50 Static 10800: 24 h Daphnia magna mg/L EC50

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

#### Component Information

Chemical Name	Partition coefficient	DOT Marine Pollutant	DOT Severe Marine pollutant
ethyl acetate 141-78-6	0.6		
n-butyl acetate 123-86-4	1.81		
2-Butanone 78-93-3	0.29		
Phthalocyanine Blue - EINECS Listed 147-14-8	6.6		
ethanol 64-17-5	-0.32		

**Other adverse effects** No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

**Waste from residues/unused products** Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

**US EPA Waste Number** D001, U112 U154 U161

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
ethyl acetate 141-78-6	-	Included in waste stream: F039	-	U112
2-Butanone 78-93-3	U159	Included in waste streams: F005, F039	200.0 mg/L regulatory level	U159

**California Hazardous Waste Status** This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
ethyl acetate 141-78-6	Toxic Ignitable
Nitrocellulose 9004-70-0	Ignitable Reactive
n-butyl acetate 123-86-4	Toxic
2-Butanone 78-93-3	Toxic Ignitable
Phthalocyanine Blue - EINECS Listed 147-14-8	Toxic
ethanol 64-17-5	Toxic Ignitable

## 14. TRANSPORT INFORMATION

### DOT

**UN/ID no.** UN1210  
**Proper shipping name** PRINTING INK  
**Hazard Class** 3  
**Packing Group** II  
**Special Provisions** 149, IB2, T4, TP1, TP8, 367  
**Description** UN1210, PRINTING INK, 3, II  
**Emergency Response Guide Number** 129

### TDG

**UN/ID no.** UN1210  
**Proper shipping name** PRINTING INK  
**Hazard Class** 3  
**Packing Group** II  
**Description** UN1210, PRINTING INK, 3, II

### MEX

**UN/ID no.** UN1210  
**Proper shipping name** PRINTING INK  
**Hazard Class** 3  
**Special Provisions** 163  
**Packing Group** II  
**Description** UN1210, PRINTING INK, 3, II

### ICAO (air)

**UN/ID no.** UN1210  
**Proper shipping name** PRINTING INK  
**Hazard Class** 3  
**Packing Group** II  
**Special Provisions** A3, A72, A192  
**Description** UN1210, PRINTING INK, 3, II

### IATA

**UN/ID no.** UN1210  
**Hazard Class** 3  
**Packing Group** II  
**ERG Code** 3L  
**Description** &UN1210, &, 3, II

### IMDG

**UN/ID no.** UN1210  
**Hazard Class** 3  
**Packing Group** II

**EmS-No.** F-E, S-D  
**Special Provisions** 163 367  
**Description** &UN1210, &, 3, II, (-3°C C.C.)

**RID**

**UN/ID no.** UN1210  
**Proper shipping name** PRINTING INK  
**Hazard Class** 3  
**Packing Group** II  
**Classification code** F1  
**Description** UN1210, PRINTING INK, 3, II  
**Labels** 3

**ADR**

**UN/ID no.** UN1210  
**Proper shipping name** PRINTING INK  
**Hazard Class** 3  
**Packing Group** II  
**Classification code** F1  
**Tunnel restriction code** (D/E)  
**Special Provisions** 163, 640C, 367  
**Description** UN1210, PRINTING INK, 3, II  
**Labels** 3

**ADN**

**Proper shipping name** PRINTING INK  
**Hazard Class** 3  
**Packing Group** II  
**Classification code** F1  
**Special Provisions** 163, 640C  
**Description** UN1210, PRINTING INK, 3, II  
**Hazard label(s)** 3  
**Limited quantity (LQ)** 5 L  
**Ventilation** VE01

**15. REGULATORY INFORMATION**

**International Inventories**

**TSCA** Complies  
**DSL/NDSL** Complies  
**EINECS/ELINCS** Complies

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical Name	SARA 313 - Threshold Values %
Phthalocyanine Blue - EINECS Listed 147-14-8	1.0

**SARA 311/312 Hazard Categories**

**Acute health hazard** Yes  
**Chronic Health Hazard** Yes  
**Fire hazard** Yes  
**Sudden release of pressure hazard** No  
**Reactive Hazard** No

**CAA (Clean Air Act)**

The following component(s) are listed in the Clean Air Act.

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
n-butyl acetate 123-86-4	5000 lb	-	-	X
Phthalocyanine Blue - EINECS Listed 147-14-8	-	X	-	-

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
ethyl acetate 141-78-6	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
n-butyl acetate 123-86-4	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
2-Butanone 78-93-3	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

**WARNING!**

This product can expose you to chemicals including those listed below, which is [are] known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

Chemical Name	California Proposition 65
titanium dioxide - 13463-67-7	Carcinogen
ethanol - 64-17-5	Carcinogen Developmental
4-methylpentan-2-one - 108-10-1	Carcinogen Developmental
methanol - 67-56-1	Developmental

**U.S. State Right-to-Know Regulations****US State Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
ethyl acetate 141-78-6	X	X	X
Nitrocellulose 9004-70-0	X	X	X
n-butyl acetate 123-86-4	X	X	X
2-Butanone 78-93-3	X	X	X
titanium dioxide 13463-67-7	X	X	X

Phthalocyanine Blue - EINECS Listed 147-14-8	X	-	X
ethanol 64-17-5	X	X	X

**U.S. EPA Label Information**

**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

**NFPA** Health hazards 2 Flammability 3 Instability 0 Physical and chemical properties -  
**HMIS** Health hazards 2 \* Flammability 3 Physical hazards 0 Personal protection X  
*Chronic Hazard Star Legend \* = Chronic Health Hazard*

**Prepared By** compliance@umarkers.com

**Revision Date** 03-Mar-2020

**Revision Note** SDS sections updated.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. No express or implied warranty of merchantability or fitness for a particular purpose or use, with respect to the product information provided herein is given. The manufacturer disclosed in section 1 shall under no circumstance be liable for incidental or consequential damage nor makes any representation as to the information's accuracy or sufficiency. All suitability of use and safe handling of this product is upon the user. This product is not to be repackaged. Any re-sale or repackaging of this product is a violation of the original terms of sale, and the manufacturer shall not be held responsible whatsoever for the product or use thereof.

**End of Safety Data Sheet**

# SAFETY DATA SHEET

Issuing Date 13-Feb-2020

Revision Date 03-Mar-2020

Revision Number 2

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product identifier

#### **Product Code(s)**

10603, 10633, 10603R

#### **Product Name**

Green Metalhead, Green Metalhead 2, Green Metalhead Refill

### **Component**

### Other means of identification

#### **Other Information**

This Safety Data Sheet complies with the requirements of the OSHA Hazard Communication Standard 2012 Final Rule. This product is intended for use by properly trained and qualified professionals after having familiarized themselves with this SDS and understand all hazards to themselves and the environment through a comprehensive training program according to the Hazard Communication Standard 29 CFR 1910.1200, and the Occupational Safety and Health adoption of the Global Harmonization Standard (GHS). Use of this product may present additional hazards, and no guarantee is implied that the hazards and necessary precautions listed in this document are the only ones present. Customers using this product are responsible for determining proper personal protection equipment according to the specific conditions, PPE listed are a minimum standard. This product is not intended for general public use.

### Recommended use of the chemical and restrictions on use

#### **Recommended Use**

Permanent marking.

#### **Uses advised against**

For professional use only.

### Details of the supplier of the safety data sheet

#### **Manufacturer Address**

U-Mark, Inc.  
102 Iowa Ave.  
Belleville, IL 62220

### Emergency telephone number

#### **24 Hour Emergency Phone Number**

Infotrac 1-800-535-5053 (USA & Canada), 1-352-323-3500 (International)

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 2

### Label elements

#### **Danger**

#### **Hazard statements**

Causes serious eye irritation  
May cause cancer  
May cause drowsiness or dizziness  
Highly flammable liquid and vapor



**Appearance** Paint**Physical state** liquid**Odor** Aromatic**Precautionary Statements**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Wash face, hands and any exposed skin thoroughly after handling  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Keep container tightly closed  
 Ground/bond container and receiving equipment  
 Use explosion-proof electrical/ ventilating / lighting/ non-sparking/ equipment  
 Use only non-sparking tools  
 Take precautionary measures against static discharge  
 Keep cool

**Precautionary Statements - Response**

IF exposed: Call a POISON CENTER or doctor/physician  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish

**Precautionary Statements - Storage**

Store locked up  
 Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Other Information**

Toxic to aquatic life with long lasting effects Toxic to aquatic life

**Unknown acute toxicity**

9 % of the mixture consists of ingredient(s) of unknown toxicity

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Mixture**

Chemical Name	CAS No.	Weight-%
ethyl acetate	141-78-6	37
Nitrocellulose	9004-70-0	10
2-Butanone	78-93-3	9
n-butyl acetate	123-86-4	6
titanium dioxide	13463-67-7	1.8

ethanol	64-17-5	0.97
copper	7440-50-8	0.224

#### 4. FIRST AID MEASURES

##### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Call 911 or emergency medical service. Immediately call a POISON CENTER or doctor/physician. Use first aid treatment according to the nature of the injury.
<b>Inhalation</b>	Remove to fresh air. IF exposed or concerned: Get medical advice/attention. Administer oxygen if breathing is difficult. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician. Unconscious persons should be moved to an uncontaminated area and, as necessary, given artificial resuscitation and supplemental oxygen.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Remove material from skin immediately. Wash off immediately with soap and plenty of water for at least 15 minutes. Do not use solvents or thinners to dissolve the material. Take off contaminated clothing and wash before reuse. Get medical attention immediately if symptoms occur. Allergic symptoms may be delayed.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.
<b>Self-protection of the first aider</b>	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

##### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Burning sensation. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Symptoms may include headache, dizziness, thirst, cramping, coughing, and nausea. These symptoms may be delayed. Repeated or prolonged exposure may cause kidney, liver, neurological, central nervous system, eye and skin disorders. See Section 11 for additional Toxicological Information. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Vapors may cause drowsiness and dizziness.
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##### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Treat symptomatically. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. May cause sensitization in susceptible persons.
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#### 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam. Dry chemical, CO <sub>2</sub> , alcohol-resistant foam or water spray. Use water spray or fog; do not use straight streams. Dry sand. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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<b>Unsuitable extinguishing media</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Specific hazards arising from the chemical</b>	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. May be ignited by heat, sparks or flames. Vapors may form explosive mixture with air. Vapors may travel to source of ignition and flash back. In the event of fire and/or explosion do not breathe fumes. Containers may explode when heated. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire may produce irritating, corrosive and/or toxic gases.
<b>Hazardous combustion products</b>	Carbon monoxide. Carbon dioxide (CO <sub>2</sub> ). Hydrocarbons. Nitrogen oxides (NO <sub>x</sub> ).
<b>Explosion data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	Yes.
<b>Special protective equipment for fire-fighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Use only non-sparking tools.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Full encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Wear protective gloves/protective clothing and eye/face protection.
<b>Other Information</b>	Ventilate the area. Refer to protective measures listed in Sections 7 and 8. Water spray may reduce vapor; but may not prevent ignition in closed spaces.

### Environmental precautions

<b>Environmental precautions</b>	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional Ecological Information. Dispose of this material and its container to hazardous or special waste collection point. Prevent entry into waterways, sewers, basements or confined areas.
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### Methods and material for containment and cleaning up

<b>Methods for containment</b>	Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Prevent further leakage or spillage if safe to do so. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Dike to collect large liquid spills.
<b>Methods for cleaning up</b>	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Place in appropriate chemical waste container. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Use clean non-sparking tools to collect absorbed material. Use personal protective equipment as required.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### Advice on safe handling

Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. In case of insufficient ventilation, wear suitable respiratory equipment. Ensure adequate ventilation. Wash thoroughly after handling. Do not breathe dust/fume/gas/mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking and explosion proof. Remove all sources of ignition. Remove contaminated clothing and shoes.

### Conditions for safe storage, including any incompatibilities

#### Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep/store only in original container. Keep away from open flames, hot surfaces and sources of ignition. Keep out of the reach of children. Store locked up.

#### Packaging materials

use only with original package - do not repackage.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Exposure Limits

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
ethyl acetate 141-78-6	TWA: 400 ppm	TWA: 400 ppm TWA: 1400 mg/m <sup>3</sup> (vacated) TWA: 400 ppm (vacated) TWA: 1400 mg/m <sup>3</sup>	IDLH: 2000 ppm TWA: 400 ppm TWA: 1400 mg/m <sup>3</sup>
2-Butanone 78-93-3	STEL: 300 ppm TWA: 200 ppm	TWA: 200 ppm TWA: 590 mg/m <sup>3</sup> (vacated) TWA: 200 ppm (vacated) TWA: 590 mg/m <sup>3</sup> (vacated) STEL: 300 ppm (vacated) STEL: 885 mg/m <sup>3</sup>	IDLH: 3000 ppm TWA: 200 ppm TWA: 590 mg/m <sup>3</sup> STEL: 300 ppm STEL: 885 mg/m <sup>3</sup>
n-butyl acetate 123-86-4	STEL: 200 ppm TWA: 150 ppm	TWA: 150 ppm TWA: 710 mg/m <sup>3</sup> (vacated) TWA: 150 ppm (vacated) TWA: 710 mg/m <sup>3</sup> (vacated) STEL: 200 ppm (vacated) STEL: 950 mg/m <sup>3</sup>	IDLH: 1700 ppm TWA: 150 ppm TWA: 710 mg/m <sup>3</sup> STEL: 200 ppm STEL: 950 mg/m <sup>3</sup>
titanium dioxide	TWA: 10 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup> total dust	IDLH: 5000 mg/m <sup>3</sup>

13463-67-7		(vacated) TWA: 10 mg/m <sup>3</sup> total dust	
ethanol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup> (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m <sup>3</sup>	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>
copper 7440-50-8	TWA: 0.2 mg/m <sup>3</sup> fume TWA: 1 mg/m <sup>3</sup> Cu dust and mist	TWA: 0.1 mg/m <sup>3</sup> fume TWA: 1 mg/m <sup>3</sup> dust and mist (vacated) TWA: 0.1 mg/m <sup>3</sup> Cu dust, fume, mist	IDLH: 100 mg/m <sup>3</sup> dust, fume and mist IDLH: 100 mg/m <sup>3</sup> Cu dust and mist TWA: 1 mg/m <sup>3</sup> dust and mist TWA: 0.1 mg/m <sup>3</sup> fume TWA: 1 mg/m <sup>3</sup> Cu dust and mist

**Other Information**

This product may also contain pigments that are otherwise non hazardous according to the US GHS: REFER TO ACGIH TLV NUISANCE PARTICULATE GUIDANCE OF 10mg/m<sup>3</sup>, 3 mg/m<sup>3</sup> respirable fraction; OSHA PEL 15mg/m<sup>3</sup> total dust, 5mg/m<sup>3</sup> respirable fraction.

**Appropriate engineering controls****Engineering controls**

Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Tight sealing safety goggles.

**Hand Protection**

Wear suitable gloves. Impervious gloves. Wear nitrile or natural rubber gloves to protect hands from contact. Butyl gloves are best for prolonged contact.

**Skin and body protection**

Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots. Impervious clothing such as Tyvek(R) coveralls for light protection or Saranex(R) 23-P for moderate protection.

**Respiratory protection**

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. Adequate ventilation should be used as the first measure to ensure airborne thresholds listed in section 8 of this SDS are not exceeded. If respirators are used, they should be used in accordance with the Hazard Communication Standard.

**General hygiene considerations**

Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<b>Physical state</b>	liquid
<b>Appearance</b>	Paint
<b>Odor</b>	Aromatic
<b>Color</b>	green
<b>Odor threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	na	
<b>Melting point / freezing point</b>	No data available	None known
<b>Boiling point / boiling range</b>	127 °C / 261 °F	None known

<b>Flash point</b>	-3 °C / 27 °F		
<b>Evaporation rate</b>	No data available	None known	
<b>Flammability (solid, gas)</b>	No data available	None known	
<b>Flammability Limit in Air</b>		None known	
<b>Upper flammability limit:</b>	No data available	<b>Lower flammability limit:</b>	No data available
<b>Vapor pressure</b>	No data available	None known	
<b>Vapor density</b>	No data available	None known	
<b>Relative density</b>	No data available	None known	
<b>Water solubility</b>	No data available	None known	
<b>Solubility in other solvents</b>	No data available	None known	
<b>Partition coefficient</b>	No data available	None known	
<b>Autoignition temperature</b>	No data available	None known	
<b>Decomposition temperature</b>	No data available	None known	
<b>Kinematic viscosity</b>	No data available	None known	
<b>Dynamic viscosity</b>	No data available	None known	
<b>Explosive properties</b>	No information available		
<b>Oxidizing properties</b>	No information available		
<b><u>Other Information</u></b>			
<b>Softening point</b>	No information available		
<b>Molecular weight</b>	No information available		
<b>Specific gravity</b>	1.01		
<b>Non-Volatile (%)</b>	43 %		
<b>VOC Content (g/l)</b>	581		
<b>Density</b>	8.4 lbs/gal		
<b>Bulk density</b>	No information available		

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	None under normal processing.
<b>Conditions to avoid</b>	Heat, flames and sparks.
<b>Incompatible materials</b>	Strong acids. Strong bases. Do not store together with acids, oxidizing substances, strong alkalis, or heavy-metal compounds.
<b>Hazardous decomposition products</b>	Carbon oxides. Nitrogen oxides (NOx). Thermal decomposition can lead to release of irritating and toxic gases and vapors.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. May cause drowsiness or dizziness.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation.

**Ingestion**

Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chemical Name	Acute toxicity - Oral	Oral LD50	Acute toxicity - Dermal	LD50/dermal/rat - mg/kg
ethyl acetate 141-78-6		= 5620 mg/kg ( Rat )		> 18000 mg/kg ( Rabbit ) > 20 mL/kg ( Rabbit )
Nitrocellulose 9004-70-0		> 5 g/kg ( Rat )		
2-Butanone 78-93-3		= 2483 mg/kg ( Rat ) = 2737 mg/kg ( Rat )		= 5000 mg/kg ( Rabbit ) = 6480 mg/kg ( Rabbit )
n-butyl acetate 123-86-4		= 10768 mg/kg ( Rat )		> 17600 mg/kg ( Rabbit )
titanium dioxide 13463-67-7		> 10000 mg/kg ( Rat )		
ethanol 64-17-5		= 7060 mg/kg ( Rat )		

Chemical Name	Physical state	Acute toxicity - Inhalation (Dusts/Mists)	Acute toxicity - Inhalation (Gases)	Acute toxicity - Inhalation (Vapors)	Inhalation LC50	LC50 Inh 1-hr Vapor rat/rabbit (no units)	Inhalation LC50 - 4 hour - vapor - mg/L
ethyl acetate 141-78-6	liquid				-	-	-
2-Butanone 78-93-3	liquid				= 11700 ppm ( Rat ) 4 h	23400	34.5018
n-butyl acetate 123-86-4	liquid				= 390 ppm ( Rat ) 4 h	780	1.8527
titanium dioxide 13463-67-7	solid				-	-	-
ethanol 64-17-5	liquid				= 124.7 mg/L ( Rat ) 4 h	-	-

Chemical Name	Acute aquatic toxicity	M-Factor	Chronic aquatic toxicity	M-Factor
ethyl acetate 141-78-6		-	Not classified	-
2-Butanone 78-93-3		-	Not classified	-
n-butyl acetate 123-86-4	Category 3	-	Category 3	-
ethanol 64-17-5	Category 2	-	Category 2	-
copper 7440-50-8	Category 1	-	Category 1	-

Chemical Name	Eyes	Respiratory sensitization	Skin sensitization	Mutagenicity	Mutagenic category 1
ethyl acetate 141-78-6	Category 2				
2-Butanone 78-93-3	Category 2				

Chemical Name	NIOSH - Target Organs	STOT - single exposure	Target Organ Systemic Toxicant - Repeated exposure	Aspiration toxicity	Ozone

ethyl acetate 141-78-6	eyes,respiratory system,skin	H336 - May cause drowsiness or dizziness Category 3			
2-Butanone 78-93-3	eyes,CNS,respiratory system,skin	H336 - May cause drowsiness or dizziness Category 3			
n-butyl acetate 123-86-4	eyes,CNS,respiratory system,skin	H336 - May cause drowsiness or dizziness Category 3			
titanium dioxide 13463-67-7	respiratory system in animals: lung tumors				
ethanol 64-17-5	eyes,respiratory system,CNS,liver,skin,blood,reproductive system				
copper 7440-50-8	eyes,kidneys,liver,respiratory system,skin dust and mist, increased risk with Wilson's disease				

#### Information on toxicological effects

**Symptoms** May cause redness and tearing of the eyes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

#### Numerical measures of toxicity

##### Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	7,726.00 mg/kg
ATEmix (dermal)	23,843.00 mg/kg
ATEmix (inhalation-vapor)	362.00 mg/l

**Unknown acute toxicity** 9 % of the mixture consists of ingredient(s) of unknown toxicity

#### Component Information

Chemical Name	Oral LD50	LD50/dermal/rat - mg/kg	Inhalation LC50
ethyl acetate 141-78-6	= 5620 mg/kg ( Rat )	> 18000 mg/kg ( Rabbit ) > 20 mL/kg ( Rabbit )	-
Nitrocellulose 9004-70-0	> 5 g/kg ( Rat )	-	-
2-Butanone 78-93-3	= 2483 mg/kg ( Rat ) = 2737 mg/kg ( Rat )	= 5000 mg/kg ( Rabbit ) = 6480 mg/kg ( Rabbit )	= 11700 ppm ( Rat ) 4 h
n-butyl acetate 123-86-4	= 10768 mg/kg ( Rat )	> 17600 mg/kg ( Rabbit )	= 390 ppm ( Rat ) 4 h
titanium dioxide 13463-67-7	> 10000 mg/kg ( Rat )	-	-
ethanol 64-17-5	= 7060 mg/kg ( Rat )	-	= 124.7 mg/L ( Rat ) 4 h

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Skin corrosion/irritation** May cause skin irritation.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Irritating to eyes.



<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	Classification based on data available for ingredients. Contains a known or suspected carcinogen.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Nitrocellulose 9004-70-0	-	Group 2A	-	X
titanium dioxide 13463-67-7	-	Group 2B	-	X
ethanol 64-17-5	A3	Group 1	Known	X

#### Legend

**ACGIH (American Conference of Governmental Industrial Hygienists)**

**IARC (International Agency for Research on Cancer)**

**NTP (National Toxicology Program)**

**OSHA (Occupational Safety and Health Administration of the US Department of Labor)**

<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	May cause drowsiness or dizziness.
<b>Target Organ Systemic Toxicant - Repeated exposure</b>	No information available.
<b>Target organ effects</b>	liver, Respiratory system, Eyes, Skin, Central nervous system, blood, Reproductive System, lungs, Lymphatic System, kidney, Bladder.
<b>Aspiration hazard</b>	No information available.

## 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
ethyl acetate 141-78-6	3300: 48 h Desmodesmus subspicatus mg/L EC50	220 - 250: 96 h Pimephales promelas mg/L LC50 flow-through 484: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 352 - 500: 96 h Oncorhynchus mykiss mg/L LC50 semi-static	-	560: 48 h Daphnia magna mg/L EC50 Static
2-Butanone 78-93-3	-	3130 - 3320: 96 h Pimephales promelas mg/L LC50 flow-through	-	520: 48 h Daphnia magna mg/L EC50 5091: 48 h Daphnia magna mg/L EC50 4025 - 6440: 48 h Daphnia magna mg/L EC50 Static
n-butyl acetate	674.7: 72 h	100: 96 h Lepomis	-	72.8: 24 h Daphnia

123-86-4	Desmodemus subspicatus mg/L EC50	macrochirus mg/L LC50 static 17 - 19: 96 h Pimephales promelas mg/L LC50 flow-through 62: 96 h Leuciscus idus mg/L LC50 static		magna mg/L EC50
ethanol 64-17-5	-	12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through	-	9268 - 14221: 48 h Daphnia magna mg/L LC50 2: 48 h Daphnia magna mg/L EC50 Static 10800: 24 h Daphnia magna mg/L EC50
copper 7440-50-8	0.0426 - 0.0535: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 0.031 - 0.054: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	0.0068 - 0.0156: 96 h Pimephales promelas mg/L LC50 0.3: 96 h Pimephales promelas mg/L LC50 static 0.2: 96 h Pimephales promelas mg/L LC50 flow-through 0.052: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 1.25: 96 h Lepomis macrochirus mg/L LC50 static 0.3: 96 h Cyprinus carpio mg/L LC50 semi-static 0.8: 96 h Cyprinus carpio mg/L LC50 static 0.112: 96 h Poecilia reticulata mg/L LC50 flow-through	-	0.03: 48 h Daphnia magna mg/L EC50 Static

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

#### Component Information

Chemical Name	Partition coefficient	DOT Marine Pollutant	DOT Severe Marine pollutant
ethyl acetate 141-78-6	0.6		
2-Butanone 78-93-3	0.29		
n-butyl acetate 123-86-4	1.81		
ethanol 64-17-5	-0.32		
copper 7440-50-8	-		Severe Marine Pollutant

**Other adverse effects** No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

#### Waste from residues/unused products

Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

**US EPA Waste Number** D001, U112 U154 U161

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
ethyl acetate 141-78-6	-	Included in waste stream: F039	-	U112
2-Butanone 78-93-3	U159	Included in waste streams: F005, F039	200.0 mg/L regulatory level	U159

**California Hazardous Waste Status** This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
ethyl acetate 141-78-6	Toxic Ignitable
Nitrocellulose 9004-70-0	Ignitable Reactive
2-Butanone 78-93-3	Toxic Ignitable
n-butyl acetate 123-86-4	Toxic
ethanol 64-17-5	Toxic Ignitable
copper 7440-50-8	Toxic

**14. TRANSPORT INFORMATION**

**DOT**

**UN/ID no.** UN1210  
**Proper shipping name** PRINTING INK  
**Hazard Class** 3  
**Packing Group** II  
**Special Provisions** 149, IB2, T4, TP1, TP8, 367  
**Description** UN1210, PRINTING INK, 3, II  
**Emergency Response Guide Number** 129

**TDG**

**UN/ID no.** UN1210  
**Proper shipping name** PRINTING INK  
**Hazard Class** 3  
**Packing Group** II  
**Description** UN1210, PRINTING INK, 3, II

**MEX**

**UN/ID no.** UN1210  
**Proper shipping name** PRINTING INK  
**Hazard Class** 3  
**Special Provisions** 163  
**Packing Group** II  
**Description** UN1210, PRINTING INK, 3, II

**ICAO (air)**

**UN/ID no.** UN1210  
**Proper shipping name** PRINTING INK

Hazard Class	3
Packing Group	II
Special Provisions	A3, A72, A192
Description	UN1210, PRINTING INK, 3, II

**IATA**

UN/ID no.	UN1210
Hazard Class	3
Packing Group	II
ERG Code	3L
Description	&UN1210, &, 3, II

**IMDG**

UN/ID no.	UN1210
Hazard Class	3
Packing Group	II
EmS-No.	F-E, S-D
Special Provisions	163 367
Description	&UN1210, &, 3, II, (-3°C C.C.)

**RID**

UN/ID no.	UN1210
Proper shipping name	PRINTING INK
Hazard Class	3
Packing Group	II
Classification code	F1
Description	UN1210, PRINTING INK, 3, II
Labels	3

**ADR**

UN/ID no.	UN1210
Proper shipping name	PRINTING INK
Hazard Class	3
Packing Group	II
Classification code	F1
Tunnel restriction code	(D/E)
Special Provisions	163, 640C, 367
Description	UN1210, PRINTING INK, 3, II
Labels	3

**ADN**

Proper shipping name	PRINTING INK
Hazard Class	3
Packing Group	II
Classification code	F1
Special Provisions	163, 640C
Description	UN1210, PRINTING INK, 3, II
Hazard label(s)	3
Limited quantity (LQ)	5 L
Ventilation	VE01

<b>15. REGULATORY INFORMATION</b>
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**International Inventories**

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies

**Legend:**

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**US Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical Name	SARA 313 - Threshold Values %
copper 7440-50-8	1.0

**SARA 311/312 Hazard Categories**

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

**CAA (Clean Air Act)**

The following component(s) are listed in the Clean Air Act.

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
n-butyl acetate 123-86-4	5000 lb	-	-	X
copper 7440-50-8	-	X	X	-

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
ethyl acetate 141-78-6	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
2-Butanone 78-93-3	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
n-butyl acetate 123-86-4	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
copper 7440-50-8	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

**WARNING!**

This product can expose you to chemicals including those listed below, which is [are] known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

Chemical Name	California Proposition 65
titanium dioxide - 13463-67-7	Carcinogen
ethanol - 64-17-5	Carcinogen Developmental
4-methylpentan-2-one - 108-10-1	Carcinogen

	Developmental
methanol - 67-56-1	Developmental

**U.S. State Right-to-Know Regulations****US State Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
ethyl acetate 141-78-6	X	X	X
Nitrocellulose 9004-70-0	X	X	X
2-Butanone 78-93-3	X	X	X
n-butyl acetate 123-86-4	X	X	X
titanium dioxide 13463-67-7	X	X	X
ethanol 64-17-5	X	X	X

**U.S. EPA Label Information****16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

<b>NFPA</b>	Health hazards 2	Flammability 3	Instability 0	Physical and chemical properties -
<b>HMIS</b>	Health hazards 2 *	Flammability 3	Physical hazards 0	Personal protection X
<i>Chronic Hazard Star Legend</i>	<i>* = Chronic Health Hazard</i>			

**Prepared By** compliance@umarkers.com

**Revision Date** 03-Mar-2020

**Revision Note** SDS sections updated.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. No express or implied warranty of merchantability or fitness for a particular purpose or use, with respect to the product information provided herein is given. The manufacturer disclosed in section 1 shall under no circumstance be liable for incidental or consequential damage nor makes any representation as to the information's accuracy or sufficiency. All suitability of use and safe handling of this product is upon the user. This product is not to be repackaged. Any re-sale or repackaging of this product is a violation of the original terms of sale, and the manufacturer shall not be held responsible whatsoever for the product or use thereof.

**End of Safety Data Sheet**

# SAFETY DATA SHEET

Issuing Date 13-Feb-2020

Revision Date 03-Mar-2020

Revision Number 3

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product identifier

**Product Code(s)**

10604, 10634, 10604R

**Product Name**

Red Metalhead, Red Metalhead 2, Red Metalhead Refill

### **Component**

### Other means of identification

**Other Information**

This Safety Data Sheet complies with the requirements of the OSHA Hazard Communication Standard 2012 Final Rule. This product is intended for use by properly trained and qualified professionals after having familiarized themselves with this SDS and understand all hazards to themselves and the environment through a comprehensive training program according to the Hazard Communication Standard 29 CFR 1910.1200, and the Occupational Safety and Health adoption of the Global Harmonization Standard (GHS). Use of this product may present additional hazards, and no guarantee is implied that the hazards and necessary precautions listed in this document are the only ones present. Customers using this product are responsible for determining proper personal protection equipment according to the specific conditions, PPE listed are a minimum standard. This product is not intended for general public use.

### Recommended use of the chemical and restrictions on use

**Recommended Use**

Permanent marking.

**Uses advised against**

For professional use only.

### Details of the supplier of the safety data sheet

**Manufacturer Address**

U-Mark, Inc.  
102 Iowa Ave.  
Belleville, IL 62220

### Emergency telephone number

**24 Hour Emergency Phone Number**

Infotrac 1-800-535-5053 (USA & Canada), 1-352-323-3500 (International)

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 2

### Label elements

**Danger**

#### **Hazard statements**

Causes serious eye irritation  
May cause cancer  
May cause drowsiness or dizziness  
Highly flammable liquid and vapor

**Appearance** Paint**Physical state** liquid**Odor** Aromatic**Precautionary Statements**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Wash face, hands and any exposed skin thoroughly after handling  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Keep container tightly closed  
 Ground/bond container and receiving equipment  
 Use explosion-proof electrical/ ventilating / lighting/ non-sparking/ equipment  
 Use only non-sparking tools  
 Take precautionary measures against static discharge  
 Keep cool

**Precautionary Statements - Response**

IF exposed: Call a POISON CENTER or doctor/physician  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish

**Precautionary Statements - Storage**

Store locked up  
 Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Other Information**

Not applicable

**Unknown acute toxicity**

13.7 % of the mixture consists of ingredient(s) of unknown toxicity

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Mixture**

Chemical Name	CAS No.	Weight-%
ethyl acetate	141-78-6	40
Nitrocellulose	9004-70-0	10
n-butyl acetate	123-86-4	7
2-Butanone	78-93-3	6
titanium dioxide	13463-67-7	1.8



ethanol	64-17-5	0.97
---------	---------	------

#### 4. FIRST AID MEASURES

##### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Call 911 or emergency medical service. Immediately call a POISON CENTER or doctor/physician. Use first aid treatment according to the nature of the injury.
<b>Inhalation</b>	Remove to fresh air. IF exposed or concerned: Get medical advice/attention. Administer oxygen if breathing is difficult. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician. Unconscious persons should be moved to an uncontaminated area and, as necessary, given artificial resuscitation and supplemental oxygen.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Remove material from skin immediately. Wash off immediately with soap and plenty of water for at least 15 minutes. Do not use solvents or thinners to dissolve the material. Take off contaminated clothing and wash before reuse. Get medical attention immediately if symptoms occur. Allergic symptoms may be delayed.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.
<b>Self-protection of the first aider</b>	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

##### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Burning sensation. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Symptoms may include headache, dizziness, thirst, cramping, coughing, and nausea. These symptoms may be delayed. Repeated or prolonged exposure may cause kidney, liver, neurological, central nervous system, eye and skin disorders. See Section 11 for additional Toxicological Information. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Vapors may cause drowsiness and dizziness.
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##### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Treat symptomatically. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. May cause sensitization in susceptible persons.
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#### 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam. Dry chemical, CO <sub>2</sub> , alcohol-resistant foam or water spray. Use water spray or fog; do not use straight streams. Dry sand. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	CAUTION: Use of water spray when fighting fire may be inefficient.

<b>Specific hazards arising from the chemical</b>	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. May be ignited by heat, sparks or flames. Vapors may form explosive mixture with air. Vapors may travel to source of ignition and flash back. In the event of fire and/or explosion do not breathe fumes. Containers may explode when heated. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire may produce irritating, corrosive and/or toxic gases.
<b>Hazardous combustion products</b>	Carbon monoxide. Carbon dioxide (CO <sub>2</sub> ). Hydrocarbons. Nitrogen oxides (NO <sub>x</sub> ).
<b>Explosion data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	Yes.
<b>Special protective equipment for fire-fighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Use only non-sparking tools.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Full encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Wear protective gloves/protective clothing and eye/face protection.
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<b>Other Information</b>	Ventilate the area. Refer to protective measures listed in Sections 7 and 8. Water spray may reduce vapor; but may not prevent ignition in closed spaces.
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### Environmental precautions

<b>Environmental precautions</b>	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional Ecological Information. Dispose of this material and its container to hazardous or special waste collection point. Prevent entry into waterways, sewers, basements or confined areas.
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### Methods and material for containment and cleaning up

<b>Methods for containment</b>	Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Prevent further leakage or spillage if safe to do so. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Dike to collect large liquid spills.
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<b>Methods for cleaning up</b>	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Place in appropriate chemical waste container. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Use clean non-sparking tools to collect absorbed material. Use personal protective equipment as required.
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<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.
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<b>Reference to other sections</b>	See section 8 for more information. See section 13 for more information.
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## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### Advice on safe handling

Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. In case of insufficient ventilation, wear suitable respiratory equipment. Ensure adequate ventilation. Wash thoroughly after handling. Do not breathe dust/fume/gas/mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking and explosion proof. Remove all sources of ignition. Remove contaminated clothing and shoes.

### Conditions for safe storage, including any incompatibilities

#### Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep/store only in original container. Keep away from open flames, hot surfaces and sources of ignition. Keep out of the reach of children. Store locked up.

#### Packaging materials

use only with original package - do not repackage.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Exposure Limits

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
ethyl acetate 141-78-6	TWA: 400 ppm	TWA: 400 ppm TWA: 1400 mg/m <sup>3</sup> (vacated) TWA: 400 ppm (vacated) TWA: 1400 mg/m <sup>3</sup>	IDLH: 2000 ppm TWA: 400 ppm TWA: 1400 mg/m <sup>3</sup>
n-butyl acetate 123-86-4	STEL: 200 ppm TWA: 150 ppm	TWA: 150 ppm TWA: 710 mg/m <sup>3</sup> (vacated) TWA: 150 ppm (vacated) TWA: 710 mg/m <sup>3</sup> (vacated) STEL: 200 ppm (vacated) STEL: 950 mg/m <sup>3</sup>	IDLH: 1700 ppm TWA: 150 ppm TWA: 710 mg/m <sup>3</sup> STEL: 200 ppm STEL: 950 mg/m <sup>3</sup>
2-Butanone 78-93-3	STEL: 300 ppm TWA: 200 ppm	TWA: 200 ppm TWA: 590 mg/m <sup>3</sup> (vacated) TWA: 200 ppm (vacated) TWA: 590 mg/m <sup>3</sup> (vacated) STEL: 300 ppm (vacated) STEL: 885 mg/m <sup>3</sup>	IDLH: 3000 ppm TWA: 200 ppm TWA: 590 mg/m <sup>3</sup> STEL: 300 ppm STEL: 885 mg/m <sup>3</sup>
titanium dioxide 13463-67-7	TWA: 10 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup> total dust (vacated) TWA: 10 mg/m <sup>3</sup> total	IDLH: 5000 mg/m <sup>3</sup>

		dust	
ethanol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup> (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m <sup>3</sup>	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>

**Other Information** This product may also contain pigments that are otherwise non hazardous according to the US GHS: REFER TO ACGIH TLV NUISANCE PARTICULATE GUIDANCE OF 10mg/m<sup>3</sup> , 3 mg/m<sup>3</sup> respirable fraction; OSHA PEL 15mg/m<sup>3</sup> total dust, 5mg/m<sup>3</sup> respirable fraction.

**Appropriate engineering controls**

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.

**Hand Protection** Wear suitable gloves. Impervious gloves. Wear nitrile or natural rubber gloves to protect hands from contact. Butyl gloves are best for prolonged contact.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots. Impervious clothing such as Tyvek(R) coveralls for light protection or Saranex(R) 23-P for moderate protection.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. Adequate ventilation should be used as the first measure to ensure airborne thresholds listed in section 8 of this SDS are not exceeded. If respirators are used, they should be used in accordance with the Hazard Communication Standard.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

**Physical state** liquid  
**Appearance** Paint  
**Odor** Aromatic  
**Color** red  
**Odor threshold** No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	na	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	127 °C / 261 °F	None known
Flash point	-3 °C / 27 °F	
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	<b>Lower flammability limit:</b> No data available

Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	No data available	None known
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No information available	
Oxidizing properties	No information available	

**Other Information**

Softening point	No information available
Molecular weight	No information available
Specific gravity	1.0
Non-Volatile (%)	43 %
VOC Content (g/l)	577
Density	8.33 lbs/gal
Bulk density	No information available

## 10. STABILITY AND REACTIVITY

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Hazardous polymerization	None under normal processing.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Strong acids. Strong bases. Do not store together with acids, oxidizing substances, strong alkalis, or heavy-metal compounds.
Hazardous decomposition products	Carbon oxides. Nitrogen oxides (NOx). Thermal decomposition can lead to release of irritating and toxic gases and vapors.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. May cause drowsiness or dizziness.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chemical Name	Acute toxicity - Oral	Oral LD50	Acute toxicity - Dermal	LD50/dermal/rat - mg/kg
ethyl acetate		= 5620 mg/kg ( Rat )		> 18000 mg/kg ( Rabbit )

141-78-6				) > 20 mL/kg ( Rabbit )
Nitrocellulose 9004-70-0		> 5 g/kg ( Rat )		
n-butyl acetate 123-86-4		= 10768 mg/kg ( Rat )		> 17600 mg/kg ( Rabbit )
2-Butanone 78-93-3		= 2483 mg/kg ( Rat ) = 2737 mg/kg ( Rat )		= 5000 mg/kg ( Rabbit ) = 6480 mg/kg ( Rabbit )
titanium dioxide 13463-67-7		> 10000 mg/kg ( Rat )		
ethanol 64-17-5		= 7060 mg/kg ( Rat )		

Chemical Name	Physical state	Acute toxicity - Inhalation (Dusts/Mists)	Acute toxicity - Inhalation (Gases)	Acute toxicity - Inhalation (Vapors)	Inhalation LC50	LC50 Inh 1-hr Vapor rat/rabbit (no units)	Inhalation LC50 - 4 hour - vapor - mg/L
ethyl acetate 141-78-6	liquid				-	-	-
n-butyl acetate 123-86-4	liquid				= 390 ppm ( Rat ) 4 h	780	1.8527
2-Butanone 78-93-3	liquid				= 11700 ppm ( Rat ) 4 h	23400	34.5018
titanium dioxide 13463-67-7	solid				-	-	-
ethanol 64-17-5	liquid				= 124.7 mg/L ( Rat ) 4 h	-	-

Chemical Name	Acute aquatic toxicity	M-Factor	Chronic aquatic toxicity	M-Factor
ethyl acetate 141-78-6		-	Not classified	-
n-butyl acetate 123-86-4	Category 3	-	Category 3	-
2-Butanone 78-93-3		-	Not classified	-
ethanol 64-17-5	Category 2	-	Category 2	-

Chemical Name	Eyes	Respiratory sensitization	Skin sensitization	Mutagenicity	Mutagenic category 1
ethyl acetate 141-78-6	Category 2				
2-Butanone 78-93-3	Category 2				

Chemical Name	NIOSH - Target Organs	STOT - single exposure	Target Organ Systemic Toxicant - Repeated exposure	Aspiration toxicity	Ozone
ethyl acetate 141-78-6	eyes,respiratory system,skin	H336 - May cause drowsiness or dizziness Category 3			
n-butyl acetate 123-86-4	eyes,CNS,respiratory system,skin	H336 - May cause drowsiness or dizziness Category 3			
2-Butanone	eyes,CNS,respirator	H336 - May cause			

78-93-3	y system,skin	drowsiness or dizziness Category 3			
titanium dioxide 13463-67-7	respiratory system in animals: lung tumors				
ethanol 64-17-5	eyes,respiratory system,CNS,liver,sk in,blood,reproductiv e system				

**Information on toxicological effects**

**Symptoms** May cause redness and tearing of the eyes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

**Numerical measures of toxicity****Acute toxicity**

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	6,981.00 mg/kg
ATEmix (dermal)	22,607.00 mg/kg
ATEmix (inhalation-vapor)	450.00 mg/l

**Unknown acute toxicity** 13.7 % of the mixture consists of ingredient(s) of unknown toxicity

**Component Information**

Chemical Name	Oral LD50	LD50/dermal/rat - mg/kg	Inhalation LC50
ethyl acetate 141-78-6	= 5620 mg/kg ( Rat )	> 18000 mg/kg ( Rabbit ) > 20 mL/kg ( Rabbit )	-
Nitrocellulose 9004-70-0	> 5 g/kg ( Rat )	-	-
n-butyl acetate 123-86-4	= 10768 mg/kg ( Rat )	> 17600 mg/kg ( Rabbit )	= 390 ppm ( Rat ) 4 h
2-Butanone 78-93-3	= 2483 mg/kg ( Rat ) = 2737 mg/kg ( Rat )	= 5000 mg/kg ( Rabbit ) = 6480 mg/kg ( Rabbit )	= 11700 ppm ( Rat ) 4 h
titanium dioxide 13463-67-7	> 10000 mg/kg ( Rat )	-	-
ethanol 64-17-5	= 7060 mg/kg ( Rat )	-	= 124.7 mg/L ( Rat ) 4 h

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** May cause skin irritation.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Irritating to eyes.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** Classification based on data available for ingredients. Contains a known or suspected carcinogen.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Nitrocellulose 9004-70-0	-	Group 2A	-	X
titanium dioxide 13463-67-7	-	Group 2B	-	X
ethanol	A3	Group 1	Known	X

64-17-5			
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**Legend**

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	May cause drowsiness or dizziness.
<b>Target Organ Systemic Toxicant - Repeated exposure</b>	No information available.
<b>Target organ effects</b>	liver, Respiratory system, Eyes, Skin, Central nervous system, blood, Reproductive System, lungs.
<b>Aspiration hazard</b>	No information available.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
ethyl acetate 141-78-6	3300: 48 h Desmodesmus subspicatus mg/L EC50	220 - 250: 96 h Pimephales promelas mg/L LC50 flow-through 484: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 352 - 500: 96 h Oncorhynchus mykiss mg/L LC50 semi-static	-	560: 48 h Daphnia magna mg/L EC50 Static
n-butyl acetate 123-86-4	674.7: 72 h Desmodesmus subspicatus mg/L EC50	100: 96 h Lepomis macrochirus mg/L LC50 static 17 - 19: 96 h Pimephales promelas mg/L LC50 flow-through 62: 96 h Leuciscus idus mg/L LC50 static	-	72.8: 24 h Daphnia magna mg/L EC50
2-Butanone 78-93-3	-	3130 - 3320: 96 h Pimephales promelas mg/L LC50 flow-through	-	520: 48 h Daphnia magna mg/L EC50 5091: 48 h Daphnia magna mg/L EC50 4025 - 6440: 48 h Daphnia magna mg/L EC50 Static
ethanol 64-17-5	-	12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through	-	9268 - 14221: 48 h Daphnia magna mg/L LC50 2: 48 h Daphnia magna mg/L EC50 Static 10800: 24 h Daphnia magna mg/L EC50



**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

#### Component Information

Chemical Name	Partition coefficient	DOT Marine Pollutant	DOT Severe Marine pollutant
ethyl acetate 141-78-6	0.6		
n-butyl acetate 123-86-4	1.81		
2-Butanone 78-93-3	0.29		
ethanol 64-17-5	-0.32		

**Other adverse effects** No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

**Waste from residues/unused products** Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

**US EPA Waste Number** D001, U112 U154 U161

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
ethyl acetate 141-78-6	-	Included in waste stream: F039	-	U112
2-Butanone 78-93-3	U159	Included in waste streams: F005, F039	200.0 mg/L regulatory level	U159

**California Hazardous Waste Status** This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
ethyl acetate 141-78-6	Toxic Ignitable
Nitrocellulose 9004-70-0	Ignitable Reactive
n-butyl acetate 123-86-4	Toxic
2-Butanone 78-93-3	Toxic Ignitable
ethanol 64-17-5	Toxic Ignitable

### 14. TRANSPORT INFORMATION

#### DOT

UN/ID no. UN1210  
 Proper shipping name PRINTING INK  
 Hazard Class 3

<b>Packing Group</b>	II
<b>Special Provisions</b>	149, IB2, T4, TP1, TP8, 367
<b>Description</b>	UN1210, PRINTING INK, 3, II
<b>Emergency Response Guide Number</b>	129

**TDG**

<b>UN/ID no.</b>	UN1210
<b>Proper shipping name</b>	PRINTING INK
<b>Hazard Class</b>	3
<b>Packing Group</b>	II
<b>Description</b>	UN1210, PRINTING INK, 3, II

**MEX**

<b>UN/ID no.</b>	UN1210
<b>Proper shipping name</b>	PRINTING INK
<b>Hazard Class</b>	3
<b>Special Provisions</b>	163
<b>Packing Group</b>	II
<b>Description</b>	UN1210, PRINTING INK, 3, II

**ICAO (air)**

<b>UN/ID no.</b>	UN1210
<b>Proper shipping name</b>	PRINTING INK
<b>Hazard Class</b>	3
<b>Packing Group</b>	II
<b>Special Provisions</b>	A3, A72, A192
<b>Description</b>	UN1210, PRINTING INK, 3, II

**IATA**

<b>UN/ID no.</b>	UN1210
<b>Hazard Class</b>	3
<b>Packing Group</b>	II
<b>ERG Code</b>	3L
<b>Description</b>	&UN1210, &, 3, II

**IMDG**

<b>UN/ID no.</b>	UN1210
<b>Hazard Class</b>	3
<b>Packing Group</b>	II
<b>EmS-No.</b>	F-E, S-D
<b>Special Provisions</b>	163 367
<b>Description</b>	&UN1210, &, 3, II, (-3°C C.C.)

**RID**

<b>UN/ID no.</b>	UN1210
<b>Proper shipping name</b>	PRINTING INK
<b>Hazard Class</b>	3
<b>Packing Group</b>	II
<b>Classification code</b>	F1
<b>Description</b>	UN1210, PRINTING INK, 3, II
<b>Labels</b>	3

**ADR**

<b>UN/ID no.</b>	UN1210
<b>Proper shipping name</b>	PRINTING INK
<b>Hazard Class</b>	3
<b>Packing Group</b>	II
<b>Classification code</b>	F1
<b>Tunnel restriction code</b>	(D/E)
<b>Special Provisions</b>	163, 640C, 367
<b>Description</b>	UN1210, PRINTING INK, 3, II
<b>Labels</b>	3

**ADN**

**Proper shipping name** PRINTING INK  
**Hazard Class** 3  
**Packing Group** II  
**Classification code** F1  
**Special Provisions** 163, 640C  
**Description** UN1210, PRINTING INK, 3, II  
**Hazard label(s)** 3  
**Limited quantity (LQ)** 5 L  
**Ventilation** VE01

**15. REGULATORY INFORMATION**

**International Inventories**

**TSCA** Complies  
**DSL/NDSL** Complies  
**EINECS/ELINCS** Complies

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

**Acute health hazard** Yes  
**Chronic Health Hazard** Yes  
**Fire hazard** Yes  
**Sudden release of pressure hazard** No  
**Reactive Hazard** No

**CAA (Clean Air Act)**

The following component(s) are listed in the Clean Air Act.

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
n-butyl acetate 123-86-4	5000 lb	-	-	X

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
ethyl acetate 141-78-6	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
n-butyl acetate 123-86-4	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
2-Butanone 78-93-3	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

**WARNING!**

This product can expose you to chemicals including those listed below, which is [are] known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

Chemical Name	California Proposition 65
titanium dioxide - 13463-67-7	Carcinogen
ethanol - 64-17-5	Carcinogen Developmental
4-methylpentan-2-one - 108-10-1	Carcinogen Developmental
methanol - 67-56-1	Developmental

**U.S. State Right-to-Know Regulations****US State Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
ethyl acetate 141-78-6	X	X	X
Nitrocellulose 9004-70-0	X	X	X
n-butyl acetate 123-86-4	X	X	X
2-Butanone 78-93-3	X	X	X
titanium dioxide 13463-67-7	X	X	X
ethanol 64-17-5	X	X	X

**U.S. EPA Label Information****16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

<b>NFPA</b>	Health hazards 2	Flammability 3	Instability 0	Physical and chemical properties -
<b>HMIS</b>	Health hazards 2 *	Flammability 3	Physical hazards 0	Personal protection X
<i>Chronic Hazard Star Legend</i>	<i>* = Chronic Health Hazard</i>			

Prepared By compliance@umarkers.com

Revision Date 03-Mar-2020

Revision Note SDS sections updated.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. No express or implied warranty of merchantability or fitness for a particular purpose or use, with respect to the product information provided herein is given. The manufacturer disclosed in section 1 shall under no circumstance be liable for incidental or consequential damage nor makes any representation as to the information's accuracy or sufficiency. All suitability of use and safe handling of this product is upon the user. This product is not to be repackaged. Any re-sale or repackaging of this product is a violation of the original terms of sale, and the manufacturer shall not be held responsible whatsoever for the product or use thereof.

# SAFETY DATA SHEET

Issuing Date 06-Nov-2019

Revision Date 03-Mar-2020

Revision Number 2

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Product identifier**

**Product Code(s)**

**Product Name**

10605, 10635, 10605R

White Metalhead, White Metalhead 2, White Metalhead Refill

**Component**

**Other means of identification**

**Other Information**

This Safety Data Sheet complies with the requirements of the OSHA Hazard Communication Standard 2012 Final Rule. This product is intended for use by properly trained and qualified professionals after having familiarized themselves with this SDS and understand all hazards to themselves and the environment through a comprehensive training program according to the Hazard Communication Standard 29 CFR 1910.1200, and the Occupational Safety and Health adoption of the Global Harmonization Standard (GHS). Use of this product may present additional hazards, and no guarantee is implied that the hazards and necessary precautions listed in this document are the only ones present. Customers using this product are responsible for determining proper personal protection equipment according to the specific conditions, PPE listed are a minimum standard. This product is not intended for general public use.

**Recommended use of the chemical and restrictions on use**

**Recommended Use**

Permanent marking.

**Uses advised against**

For professional use only.

**Details of the supplier of the safety data sheet**

**Manufacturer Address**

U-Mark, Inc.

102 Iowa Ave.

Belleville, IL 62220

**Emergency telephone number**

**24 Hour Emergency Phone Number**

Infotrac 1-800-535-5053 (USA & Canada), 1-352-323-3500 (International)

## 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 2

**Label elements**

**Danger**

**Hazard statements**

Causes serious eye irritation

May cause cancer

May cause drowsiness or dizziness

Highly flammable liquid and vapor

**Appearance** Paint**Physical state** liquid**Odor** Alcohol**Precautionary Statements**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Wash face, hands and any exposed skin thoroughly after handling  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Keep container tightly closed  
 Ground/bond container and receiving equipment  
 Use explosion-proof electrical/ ventilating / lighting/ non-sparking/ equipment  
 Use only non-sparking tools  
 Take precautionary measures against static discharge  
 Keep cool

**Precautionary Statements - Response**

IF exposed: Call a POISON CENTER or doctor/physician  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish

**Precautionary Statements - Storage**

Store locked up  
 Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Other Information**

Harmful to aquatic life with long lasting effects Toxic to aquatic life

**Unknown acute toxicity**

8.595 % of the mixture consists of ingredient(s) of unknown toxicity

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Mixture**

Chemical Name	CAS No.	Weight-%
ethyl acetate	141-78-6	40.12
titanium dioxide	13463-67-7	19.8
ethanol	64-17-5	13.08635
Nitrocellulose	9004-70-0	10
silicon dioxide crystalline-free, chemically	7631-86-9	1.32

prepared		
4-methylpentan-2-one	108-10-1	0.48387

#### 4. FIRST AID MEASURES

##### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Call 911 or emergency medical service. Immediately call a POISON CENTER or doctor/physician. Use first aid treatment according to the nature of the injury.
<b>Inhalation</b>	Remove to fresh air. IF exposed or concerned: Get medical advice/attention. Administer oxygen if breathing is difficult. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician. Unconscious persons should be moved to an uncontaminated area and, as necessary, given artificial resuscitation and supplemental oxygen.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Remove material from skin immediately. Wash off immediately with soap and plenty of water for at least 15 minutes. Do not use solvents or thinners to dissolve the material. Take off contaminated clothing and wash before reuse. Get medical attention immediately if symptoms occur. Allergic symptoms may be delayed.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.
<b>Self-protection of the first aider</b>	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

##### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Burning sensation. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Symptoms may include headache, dizziness, thirst, cramping, coughing, and nausea. These symptoms may be delayed. Repeated or prolonged exposure may cause kidney, liver, neurological, central nervous system, eye and skin disorders. See Section 11 for additional Toxicological Information. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Vapors may cause drowsiness and dizziness.
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##### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Treat symptomatically. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. May cause sensitization in susceptible persons.
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#### 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam. Dry chemical, CO <sub>2</sub> , alcohol-resistant foam or water spray. Use water spray or fog; do not use straight streams. Dry sand. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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<b>Unsuitable extinguishing media</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Specific hazards arising from the chemical</b>	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. May be ignited by heat, sparks or flames. Vapors may form explosive mixture with air. Vapors may travel to source of ignition and flash back. In the event of fire and/or explosion do not breathe fumes. Containers may explode when heated. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire may produce irritating, corrosive and/or toxic gases.
<b>Hazardous combustion products</b>	Carbon monoxide. Carbon dioxide (CO <sub>2</sub> ). Hydrocarbons. Nitrogen oxides (NO <sub>x</sub> ).
<b>Explosion data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	Yes.
<b>Special protective equipment for fire-fighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Use only non-sparking tools.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Full encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Wear protective gloves/protective clothing and eye/face protection.
<b>Other Information</b>	Ventilate the area. Refer to protective measures listed in Sections 7 and 8. Water spray may reduce vapor; but may not prevent ignition in closed spaces.

### Environmental precautions

<b>Environmental precautions</b>	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional Ecological Information. Dispose of this material and its container to hazardous or special waste collection point. Prevent entry into waterways, sewers, basements or confined areas.
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### Methods and material for containment and cleaning up

<b>Methods for containment</b>	Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Prevent further leakage or spillage if safe to do so. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Dike to collect large liquid spills.
<b>Methods for cleaning up</b>	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Place in appropriate chemical waste container. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Use clean non-sparking tools to collect absorbed material. Use personal protective equipment as required.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.



Reference to other sections See section 8 for more information. See section 13 for more information.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### Advice on safe handling

Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. In case of insufficient ventilation, wear suitable respiratory equipment. Ensure adequate ventilation. Wash thoroughly after handling. Do not breathe dust/fume/gas/mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking and explosion proof. Remove all sources of ignition. Remove contaminated clothing and shoes.

### Conditions for safe storage, including any incompatibilities

#### Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep/store only in original container. Keep away from open flames, hot surfaces and sources of ignition. Keep out of the reach of children. Store locked up.

#### Packaging materials

use only with original package - do not repackage.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Exposure Limits

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
ethyl acetate 141-78-6	TWA: 400 ppm	TWA: 400 ppm TWA: 1400 mg/m <sup>3</sup> (vacated) TWA: 400 ppm (vacated) TWA: 1400 mg/m <sup>3</sup>	IDLH: 2000 ppm TWA: 400 ppm TWA: 1400 mg/m <sup>3</sup>
titanium dioxide 13463-67-7	TWA: 10 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup> total dust (vacated) TWA: 10 mg/m <sup>3</sup> total dust	IDLH: 5000 mg/m <sup>3</sup>
ethanol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup> (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m <sup>3</sup>	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>
silicon dioxide crystalline-free, chemically prepared 7631-86-9	-	(vacated) TWA: 6 mg/m <sup>3</sup> <1% Crystalline silica TWA: 20 mppcf : (80)/(%) SiO <sub>2</sub> mg/m <sup>3</sup> TWA	IDLH: 3000 mg/m <sup>3</sup> TWA: 6 mg/m <sup>3</sup>
4-methylpentan-2-one	STEL: 75 ppm	TWA: 100 ppm	IDLH: 500 ppm

108-10-1	TWA: 20 ppm	TWA: 410 mg/m <sup>3</sup> (vacated) TWA: 50 ppm (vacated) TWA: 205 mg/m <sup>3</sup> (vacated) STEL: 75 ppm (vacated) STEL: 300 mg/m <sup>3</sup>	TWA: 50 ppm TWA: 205 mg/m <sup>3</sup> STEL: 75 ppm STEL: 300 mg/m <sup>3</sup>
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**Other Information** This product may also contain pigments that are otherwise non hazardous according to the US GHS: REFER TO ACGIH TLV NUISANCE PARTICULATE GUIDANCE OF 10mg/m<sup>3</sup> , 3 mg/m<sup>3</sup> respirable fraction; OSHA PEL 15mg/m<sup>3</sup> total dust, 5mg/m<sup>3</sup> respirable fraction.

**Appropriate engineering controls**

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.

**Hand Protection** Wear suitable gloves. Impervious gloves. Wear nitrile or natural rubber gloves to protect hands from contact. Butyl gloves are best for prolonged contact.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots. Impervious clothing such as Tyvek(R) coveralls for light protection or Saranex(R) 23-P for moderate protection.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. Adequate ventilation should be used as the first measure to ensure airborne thresholds listed in section 8 of this SDS are not exceeded. If respirators are used, they should be used in accordance with the Hazard Communication Standard.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

**Physical state** liquid  
**Appearance** Paint  
**Odor** Alcohol  
**Color** white  
**Odor threshold** No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	na	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	127 °C / 261 °F	None known
Flash point	-3 °C / 27 °F	
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	<b>Lower flammability limit:</b> No data available

Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	No data available	None known
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No information available	
Oxidizing properties	No information available	

**Other Information**

Softening point	No information available
Molecular weight	No information available
Specific gravity	1.14
Non-Volatile (%)	44 %
VOC Content (g/l)	64
Density	9.48 lbs/gal
Bulk density	No information available

## 10. STABILITY AND REACTIVITY

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Hazardous polymerization	None under normal processing.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Strong acids. Strong bases. Do not store together with acids, oxidizing substances, strong alkalis, or heavy-metal compounds.
Hazardous decomposition products	Carbon oxides. Nitrogen oxides (NOx). Thermal decomposition can lead to release of irritating and toxic gases and vapors.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. May cause drowsiness or dizziness.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chemical Name	Acute toxicity - Oral	Oral LD50	Acute toxicity - Dermal	LD50/dermal/rat - mg/kg
ethyl acetate		= 5620 mg/kg ( Rat )		> 18000 mg/kg ( Rabbit )

141-78-6				) > 20 mL/kg ( Rabbit )
titanium dioxide 13463-67-7		> 10000 mg/kg ( Rat )		
ethanol 64-17-5		= 7060 mg/kg ( Rat )		
Nitrocellulose 9004-70-0		> 5 g/kg ( Rat )		
silicon dioxide crystalline-free, chemically prepared 7631-86-9		> 5000 mg/kg ( Rat )		> 2000 mg/kg ( Rabbit )
4-methylpentan-2-one 108-10-1		= 2080 mg/kg ( Rat )		= 3000 mg/kg ( Rabbit )

Chemical Name	Physical state	Acute toxicity - Inhalation (Dusts/Mists)	Acute toxicity - Inhalation (Gases)	Acute toxicity - Inhalation (Vapors)	Inhalation LC50	LC50 Inh 1-hr Vapor rat/rabbit (no units)	Inhalation LC50 - 4 hour - vapor - mg/L
ethyl acetate 141-78-6	liquid				-	-	-
titanium dioxide 13463-67-7	solid				-	-	-
ethanol 64-17-5	liquid				= 124.7 mg/L ( Rat ) 4 h	-	-
silicon dioxide crystalline-free, chemically prepared 7631-86-9	solid				> 2.2 mg/L ( Rat ) 1 h	-	-
4-methylpentan-2-one 108-10-1	liquid	Category 4			= 8.2 mg/L ( Rat ) 4 h	-	-

Chemical Name	Acute aquatic toxicity	M-Factor	Chronic aquatic toxicity	M-Factor
ethyl acetate 141-78-6		-	Not classified	-
ethanol 64-17-5	Category 2	-	Category 2	-
4-methylpentan-2-one 108-10-1		-	Not classified	-

Chemical Name	Eyes	Respiratory sensitization	Skin sensitization	Mutagenicity	Mutagenic category 1
ethyl acetate 141-78-6	Category 2				
4-methylpentan-2-one 108-10-1	Category 2				

Chemical Name	NIOSH - Target Organs	STOT - single exposure	Target Organ Systemic Toxicant - Repeated exposure	Aspiration toxicity	Ozone
ethyl acetate 141-78-6	eyes,respiratory system,skin	H336 - May cause drowsiness or dizziness Category 3			
titanium dioxide 13463-67-7	respiratory system in animals: lung tumors				
ethanol	eyes,respiratory				

64-17-5	system,CNS,liver,skin,blood,reproductive system				
silicon dioxide crystalline-free, chemically prepared 7631-86-9	eyes,respiratory system				
4-methylpentan-2-one 108-10-1	eyes,CNS,respiratory system,liver,skin,kidneys	H335 - May cause respiratory irritation Category 3			

**Information on toxicological effects**

**Symptoms** May cause redness and tearing of the eyes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

**Numerical measures of toxicity****Acute toxicity**

The following values are calculated based on chapter 3.1 of the GHS document .

<b>ATEmix (oral)</b>	7,557.00 mg/kg
<b>ATEmix (dermal)</b>	34,650.00 mg/kg
<b>ATEmix (inhalation-dust/mist)</b>	952.90 mg/l

**Unknown acute toxicity** 8.595 % of the mixture consists of ingredient(s) of unknown toxicity

**Component Information**

Chemical Name	Oral LD50	LD50/dermal/rat - mg/kg	Inhalation LC50
ethyl acetate 141-78-6	= 5620 mg/kg ( Rat )	> 18000 mg/kg ( Rabbit ) > 20 mL/kg ( Rabbit )	-
titanium dioxide 13463-67-7	> 10000 mg/kg ( Rat )	-	-
ethanol 64-17-5	= 7060 mg/kg ( Rat )	-	= 124.7 mg/L ( Rat ) 4 h
Nitrocellulose 9004-70-0	> 5 g/kg ( Rat )	-	-
silicon dioxide crystalline-free, chemically prepared 7631-86-9	> 5000 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 2.2 mg/L ( Rat ) 1 h
4-methylpentan-2-one 108-10-1	= 2080 mg/kg ( Rat )	= 3000 mg/kg ( Rabbit )	= 8.2 mg/L ( Rat ) 4 h

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** May cause skin irritation.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Irritating to eyes.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** Classification based on data available for ingredients. Contains a known or suspected carcinogen.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
titanium dioxide 13463-67-7	-	Group 2B	-	X
ethanol	A3	Group 1	Known	X

64-17-5				
Nitrocellulose 9004-70-0	-	Group 2A	-	X
silicon dioxide crystalline-free, chemically prepared 7631-86-9	-	Group 3	-	-
4-methylpentan-2-one 108-10-1	A3	Group 2B	-	X

**Legend****ACGIH (American Conference of Governmental Industrial Hygienists)****IARC (International Agency for Research on Cancer)****NTP (National Toxicology Program)****OSHA (Occupational Safety and Health Administration of the US Department of Labor)****Reproductive toxicity** No information available.**STOT - single exposure** May cause drowsiness or dizziness.**Target Organ Systemic Toxicant - Repeated exposure** No information available.**Target organ effects** liver, Respiratory system, Eyes, Skin, Central nervous system, blood, Reproductive System, lungs.**Aspiration hazard** No information available.**12. ECOLOGICAL INFORMATION****Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
ethyl acetate 141-78-6	3300: 48 h Desmodesmus subspicatus mg/L EC50	220 - 250: 96 h Pimephales promelas mg/L LC50 flow-through 484: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 352 - 500: 96 h Oncorhynchus mykiss mg/L LC50 semi-static	-	560: 48 h Daphnia magna mg/L EC50 Static
ethanol 64-17-5	-	12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through	-	9268 - 14221: 48 h Daphnia magna mg/L LC50 2: 48 h Daphnia magna mg/L EC50 Static 10800: 24 h Daphnia magna mg/L EC50
silicon dioxide crystalline-free, chemically prepared 7631-86-9	440: 72 h Pseudokirchneriella subcapitata mg/L EC50	5000: 96 h Brachydanio rerio mg/L LC50 static	-	7600: 48 h Ceriodaphnia dubia mg/L EC50
4-methylpentan-2-one 108-10-1	400: 96 h Pseudokirchneriella	496 - 514: 96 h Pimephales promelas	-	170: 48 h Daphnia magna mg/L EC50

	subcapitata mg/L EC50	mg/L LC50 flow-through	
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**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

#### Component Information

Chemical Name	Partition coefficient	DOT Marine Pollutant	DOT Severe Marine pollutant
ethyl acetate 141-78-6	0.6		
ethanol 64-17-5	-0.32		
4-methylpentan-2-one 108-10-1	1.19		

**Other adverse effects** No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

**Waste from residues/unused products** Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

**US EPA Waste Number** D001, U112 U154 U161

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
ethyl acetate 141-78-6	-	Included in waste stream: F039	-	U112
4-methylpentan-2-one 108-10-1	-	Included in waste stream: F039	-	U161

**California Hazardous Waste Status** This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
ethyl acetate 141-78-6	Toxic Ignitable
ethanol 64-17-5	Toxic Ignitable
Nitrocellulose 9004-70-0	Ignitable Reactive

### 14. TRANSPORT INFORMATION

#### DOT

**UN/ID no.** UN1210  
**Proper shipping name** PRINTING INK  
**Hazard Class** 3  
**Packing Group** II  
**Special Provisions** 149, IB2, T4, TP1, TP8, 367  
**Description** UN1210, PRINTING INK, 3, II  
**Emergency Response Guide** 129

**Number****TDG**

UN/ID no.	UN1210
Proper shipping name	PRINTING INK
Hazard Class	3
Packing Group	II
Description	UN1210, PRINTING INK, 3, II

**MEX**

UN/ID no.	UN1210
Proper shipping name	PRINTING INK
Hazard Class	3
Special Provisions	163
Packing Group	II
Description	UN1210, PRINTING INK, 3, II

**ICAO (air)**

UN/ID no.	UN1210
Proper shipping name	PRINTING INK
Hazard Class	3
Packing Group	II
Special Provisions	A3, A72, A192
Description	UN1210, PRINTING INK, 3, II

**IATA**

UN/ID no.	UN1210
Hazard Class	3
Packing Group	II
ERG Code	3L
Description	&UN1210, &, 3, II

**IMDG**

UN/ID no.	UN1210
Hazard Class	3
Packing Group	II
EmS-No.	F-E, S-D
Special Provisions	163 367
Description	&UN1210, &, 3, II, (-3°C C.C.)

**RID**

UN/ID no.	UN1210
Proper shipping name	PRINTING INK
Hazard Class	3
Packing Group	II
Classification code	F1
Description	UN1210, PRINTING INK, 3, II
Labels	3

**ADR**

UN/ID no.	UN1210
Proper shipping name	PRINTING INK
Hazard Class	3
Packing Group	II
Classification code	F1
Tunnel restriction code	(D/E)
Special Provisions	163, 640C, 367
Description	UN1210, PRINTING INK, 3, II
Labels	3

**ADN**

Proper shipping name	PRINTING INK
Hazard Class	3



Packing Group	II
Classification code	F1
Special Provisions	163, 640C
Description	UN1210, PRINTING INK, 3, II
Hazard label(s)	3
Limited quantity (LQ)	5 L
Ventilation	VE01

## 15. REGULATORY INFORMATION

### International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies

### Legend:

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

### US Federal Regulations

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical Name	SARA 313 - Threshold Values %
4-methylpentan-2-one 108-10-1	1.0

#### **SARA 311/312 Hazard Categories**

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

#### **CAA (Clean Air Act)**

The following component(s) are listed in the Clean Air Act.

Chemical Name	Hazardous air pollutants (HAPs) content
4-methylpentan-2-one 108-10-1	Present

#### **CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

#### **CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
ethyl acetate 141-78-6	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
4-methylpentan-2-one 108-10-1	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

**WARNING!**

This product can expose you to chemicals including those listed below, which is [are] known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

Chemical Name	California Proposition 65
titanium dioxide - 13463-67-7	Carcinogen
ethanol - 64-17-5	Carcinogen Developmental
4-methylpentan-2-one - 108-10-1	Carcinogen Developmental
methanol - 67-56-1	Developmental

**U.S. State Right-to-Know Regulations****US State Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
ethyl acetate 141-78-6	X	X	X
titanium dioxide 13463-67-7	X	X	X
ethanol 64-17-5	X	X	X
Nitrocellulose 9004-70-0	X	X	X
silicon dioxide crystalline-free, chemically prepared 7631-86-9	X	X	X
4-methylpentan-2-one 108-10-1	X	X	X
methanol 67-56-1	X	X	X

**U.S. EPA Label Information****16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

<b>NFPA</b>	Health hazards 2	Flammability 3	Instability 0	Physical and chemical properties -
<b>HMIS</b>	Health hazards 2 *	Flammability 3	Physical hazards 0	Personal protection X
<i>Chronic Hazard Star Legend</i>	<i>* = Chronic Health Hazard</i>			

**Prepared By** compliance@umarkers.com

**Revision Date** 03-Mar-2020

**Revision Note** SDS sections updated.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. No express or implied warranty of merchantability or fitness for a particular purpose or use, with respect to the product information provided herein is given. The manufacturer disclosed in section 1 shall under no circumstance be liable for incidental or consequential damage nor makes any representation

as to the information's accuracy or sufficiency. All suitability of use and safe handling of this product is upon the user. This product is not to be repackaged. Any re-sale or repackaging of this product is a violation of the original terms of sale, and the manufacturer shall not be held responsible whatsoever for the product or use thereof.

**End of Safety Data Sheet**

# SAFETY DATA SHEET

Issuing Date 03-Feb-2020

Revision Date 03-Mar-2020

Revision Number 4

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product identifier

#### Product Code(s)

10606, 10636, 10606R

#### Product Name

Yellow Metalhead, Yellow Metalhead 2, Yellow Metalhead Refill

### Component

### Other means of identification

#### Other Information

This Safety Data Sheet complies with the requirements of the OSHA Hazard Communication Standard 2012 Final Rule. This product is intended for use by properly trained and qualified professionals after having familiarized themselves with this SDS and understand all hazards to themselves and the environment through a comprehensive training program according to the Hazard Communication Standard 29 CFR 1910.1200, and the Occupational Safety and Health adoption of the Global Harmonization Standard (GHS). Use of this product may present additional hazards, and no guarantee is implied that the hazards and necessary precautions listed in this document are the only ones present. Customers using this product are responsible for determining proper personal protection equipment according to the specific conditions, PPE listed are a minimum standard. This product is not intended for general public use.

### Recommended use of the chemical and restrictions on use

#### Recommended Use

Permanent marking.

#### Uses advised against

For professional use only.

### Details of the supplier of the safety data sheet

#### Manufacturer Address

U-Mark, Inc.  
102 Iowa Ave.  
Belleville, IL 62220

### Emergency telephone number

#### 24 Hour Emergency Phone Number

Infotrac 1-800-535-5053 (USA & Canada), 1-352-323-3500 (International)

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 2

### Label elements

#### Danger

#### Hazard statements

Causes serious eye irritation  
May cause cancer  
May cause drowsiness or dizziness  
Highly flammable liquid and vapor

**Appearance** Paint**Physical state** liquid**Odor** Aromatic**Precautionary Statements**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Wash face, hands and any exposed skin thoroughly after handling  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Keep container tightly closed  
 Ground/bond container and receiving equipment  
 Use explosion-proof electrical/ ventilating / lighting/ non-sparking/ equipment  
 Use only non-sparking tools  
 Take precautionary measures against static discharge  
 Keep cool

**Precautionary Statements - Response**

IF exposed: Call a POISON CENTER or doctor/physician  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish

**Precautionary Statements - Storage**

Store locked up  
 Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Other Information**

Not applicable

**Unknown acute toxicity**

13.7 % of the mixture consists of ingredient(s) of unknown toxicity

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Mixture**

Chemical Name	CAS No.	Weight-%
ethyl acetate	141-78-6	40
Nitrocellulose	9004-70-0	10
n-butyl acetate	123-86-4	7
2-Butanone	78-93-3	6
non hazardous pigment	TRADE SECRET	4.7

titanium dioxide	13463-67-7	1.8
ethanol	64-17-5	0.97

#### 4. FIRST AID MEASURES

##### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Call 911 or emergency medical service. Immediately call a POISON CENTER or doctor/physician. Use first aid treatment according to the nature of the injury.
<b>Inhalation</b>	Remove to fresh air. IF exposed or concerned: Get medical advice/attention. Administer oxygen if breathing is difficult. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician. Unconscious persons should be moved to an uncontaminated area and, as necessary, given artificial resuscitation and supplemental oxygen.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Remove material from skin immediately. Wash off immediately with soap and plenty of water for at least 15 minutes. Do not use solvents or thinners to dissolve the material. Take off contaminated clothing and wash before reuse. Get medical attention immediately if symptoms occur. Allergic symptoms may be delayed.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.
<b>Self-protection of the first aider</b>	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

##### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Burning sensation. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Symptoms may include headache, dizziness, thirst, cramping, coughing, and nausea. These symptoms may be delayed. Repeated or prolonged exposure may cause kidney, liver, neurological, central nervous system, eye and skin disorders. See Section 11 for additional Toxicological Information. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Vapors may cause drowsiness and dizziness.
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##### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Treat symptomatically. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. May cause sensitization in susceptible persons.
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#### 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam. Dry chemical, CO <sub>2</sub> , alcohol-resistant foam or water spray. Use water spray or fog; do not use straight streams. Dry sand. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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<b>Unsuitable extinguishing media</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Specific hazards arising from the chemical</b>	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. May be ignited by heat, sparks or flames. Vapors may form explosive mixture with air. Vapors may travel to source of ignition and flash back. In the event of fire and/or explosion do not breathe fumes. Containers may explode when heated. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire may produce irritating, corrosive and/or toxic gases.
<b>Hazardous combustion products</b>	Carbon monoxide. Carbon dioxide (CO <sub>2</sub> ). Hydrocarbons. Nitrogen oxides (NO <sub>x</sub> ).
<b>Explosion data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	Yes.
<b>Special protective equipment for fire-fighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Use only non-sparking tools.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Full encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Wear protective gloves/protective clothing and eye/face protection.
<b>Other Information</b>	Ventilate the area. Refer to protective measures listed in Sections 7 and 8. Water spray may reduce vapor; but may not prevent ignition in closed spaces.

### Environmental precautions

<b>Environmental precautions</b>	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional Ecological Information. Dispose of this material and its container to hazardous or special waste collection point. Prevent entry into waterways, sewers, basements or confined areas.
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### Methods and material for containment and cleaning up

<b>Methods for containment</b>	Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Prevent further leakage or spillage if safe to do so. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Dike to collect large liquid spills.
<b>Methods for cleaning up</b>	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Place in appropriate chemical waste container. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Use clean non-sparking tools to collect absorbed material. Use personal protective equipment as required.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### Advice on safe handling

Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. In case of insufficient ventilation, wear suitable respiratory equipment. Ensure adequate ventilation. Wash thoroughly after handling. Do not breathe dust/fume/gas/mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking and explosion proof. Remove all sources of ignition. Remove contaminated clothing and shoes.

### Conditions for safe storage, including any incompatibilities

#### Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep/store only in original container. Keep away from open flames, hot surfaces and sources of ignition. Keep out of the reach of children. Store locked up.

#### Packaging materials

use only with original package - do not repackage.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Exposure Limits

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
ethyl acetate 141-78-6	TWA: 400 ppm	TWA: 400 ppm TWA: 1400 mg/m <sup>3</sup> (vacated) TWA: 400 ppm (vacated) TWA: 1400 mg/m <sup>3</sup>	IDLH: 2000 ppm TWA: 400 ppm TWA: 1400 mg/m <sup>3</sup>
n-butyl acetate 123-86-4	STEL: 200 ppm TWA: 150 ppm	TWA: 150 ppm TWA: 710 mg/m <sup>3</sup> (vacated) TWA: 150 ppm (vacated) TWA: 710 mg/m <sup>3</sup> (vacated) STEL: 200 ppm (vacated) STEL: 950 mg/m <sup>3</sup>	IDLH: 1700 ppm TWA: 150 ppm TWA: 710 mg/m <sup>3</sup> STEL: 200 ppm STEL: 950 mg/m <sup>3</sup>
2-Butanone 78-93-3	STEL: 300 ppm TWA: 200 ppm	TWA: 200 ppm TWA: 590 mg/m <sup>3</sup> (vacated) TWA: 200 ppm (vacated) TWA: 590 mg/m <sup>3</sup> (vacated) STEL: 300 ppm (vacated) STEL: 885 mg/m <sup>3</sup>	IDLH: 3000 ppm TWA: 200 ppm TWA: 590 mg/m <sup>3</sup> STEL: 300 ppm STEL: 885 mg/m <sup>3</sup>
non hazardous pigment	-	TWA: 15 mg/m <sup>3</sup> total dust	-



TRADE SECRET		(vacated) TWA: 10 mg/m <sup>3</sup> total dust	
titanium dioxide 13463-67-7	TWA: 10 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup> total dust (vacated) TWA: 10 mg/m <sup>3</sup> total dust	IDLH: 5000 mg/m <sup>3</sup>
ethanol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup> (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m <sup>3</sup>	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>

**Other Information**

This product may also contain pigments that are otherwise non hazardous according to the US GHS: REFER TO ACGIH TLV NUISANCE PARTICULATE GUIDANCE OF 10mg/m<sup>3</sup> , 3 mg/m<sup>3</sup> respirable fraction; OSHA PEL 15mg/m<sup>3</sup> total dust, 5mg/m<sup>3</sup> respirable fraction.

**Appropriate engineering controls**

**Engineering controls**

Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Tight sealing safety goggles.

**Hand Protection**

Wear suitable gloves. Impervious gloves. Wear nitrile or natural rubber gloves to protect hands from contact. Butyl gloves are best for prolonged contact.

**Skin and body protection**

Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots. Impervious clothing such as Tyvek(R) coveralls for light protection or Saranex(R) 23-P for moderate protection.

**Respiratory protection**

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. Adequate ventilation should be used as the first measure to ensure airborne thresholds listed in section 8 of this SDS are not exceeded. If respirators are used, they should be used in accordance with the Hazard Communication Standard.

**General hygiene considerations**

Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

<b>Physical state</b>	liquid
<b>Appearance</b>	Paint
<b>Odor</b>	Aromatic
<b>Color</b>	yellow
<b>Odor threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	na	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	127 °C / 261 °F	None known
Flash point	-3 °C / 27 °F	
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known

<b>Flammability Limit in Air</b>		None known	
<b>Upper flammability limit:</b>	No data available	<b>Lower flammability limit:</b>	No data available
<b>Vapor pressure</b>	No data available	None known	
<b>Vapor density</b>	No data available	None known	
<b>Relative density</b>	No data available	None known	
<b>Water solubility</b>	No data available	None known	
<b>Solubility in other solvents</b>	No data available	None known	
<b>Partition coefficient</b>	No data available	None known	
<b>Autoignition temperature</b>	No data available	None known	
<b>Decomposition temperature</b>	No data available	None known	
<b>Kinematic viscosity</b>	No data available	None known	
<b>Dynamic viscosity</b>	No data available	None known	
<b>Explosive properties</b>	No information available		
<b>Oxidizing properties</b>	No information available		
<b><u>Other Information</u></b>			
<b>Softening point</b>	No information available		
<b>Molecular weight</b>	No information available		
<b>Specific gravity</b>	1		
<b>Non-Volatile (%)</b>	43 %		
<b>VOC Content (g/l)</b>	581		
<b>Density</b>	8.38 lbs/gal		
<b>Bulk density</b>	No information available		

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	None under normal processing.
<b>Conditions to avoid</b>	Heat, flames and sparks.
<b>Incompatible materials</b>	Strong acids. Strong bases. Do not store together with acids, oxidizing substances, strong alkalis, or heavy-metal compounds.
<b>Hazardous decomposition products</b>	Carbon oxides. Nitrogen oxides (NOx). Thermal decomposition can lead to release of irritating and toxic gases and vapors.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. May cause drowsiness or dizziness.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chemical Name	Acute toxicity - Oral	Oral LD50	Acute toxicity - Dermal	LD50/dermal/rat - mg/kg
ethyl acetate 141-78-6		= 5620 mg/kg ( Rat )		> 18000 mg/kg ( Rabbit ) > 20 mL/kg ( Rabbit )
Nitrocellulose 9004-70-0		> 5 g/kg ( Rat )		
n-butyl acetate 123-86-4		= 10768 mg/kg ( Rat )		> 17600 mg/kg ( Rabbit )
2-Butanone 78-93-3		= 2483 mg/kg ( Rat ) = 2737 mg/kg ( Rat )		= 5000 mg/kg ( Rabbit ) = 6480 mg/kg ( Rabbit )
titanium dioxide 13463-67-7		> 10000 mg/kg ( Rat )		
ethanol 64-17-5		= 7060 mg/kg ( Rat )		

Chemical Name	Physical state	Acute toxicity - Inhalation (Dusts/Mists)	Acute toxicity - Inhalation (Gases)	Acute toxicity - Inhalation (Vapors)	Inhalation LC50	LC50 Inh 1-hr Vapor rat/rabbit (no units)	Inhalation LC50 - 4 hour - vapor - mg/L
ethyl acetate 141-78-6	liquid				-	-	-
n-butyl acetate 123-86-4	liquid				= 390 ppm ( Rat ) 4 h	780	1.8527
2-Butanone 78-93-3	liquid				= 11700 ppm ( Rat ) 4 h	23400	34.5018
titanium dioxide 13463-67-7	solid				-	-	-
ethanol 64-17-5	liquid				= 124.7 mg/L ( Rat ) 4 h	-	-

Chemical Name	Acute aquatic toxicity	M-Factor	Chronic aquatic toxicity	M-Factor
ethyl acetate 141-78-6		-	Not classified	-
n-butyl acetate 123-86-4	Category 3	-	Category 3	-
2-Butanone 78-93-3		-	Not classified	-
ethanol 64-17-5	Category 2	-	Category 2	-

Chemical Name	Eyes	Respiratory sensitization	Skin sensitization	Mutagenicity	Mutagenic category 1
ethyl acetate 141-78-6	Category 2				
2-Butanone 78-93-3	Category 2				

Chemical Name	NIOSH - Target Organs	STOT - single exposure	Target Organ Systemic Toxicant - Repeated exposure	Aspiration toxicity	Ozone
ethyl acetate 141-78-6	eyes,respiratory system,skin	H336 - May cause drowsiness or dizziness Category 3			
n-butyl acetate	eyes,CNS,respirator	H336 - May cause			

123-86-4	y system,skin	drowsiness or dizziness Category 3			
2-Butanone 78-93-3	eyes,CNS,respiratory system,skin	H336 - May cause drowsiness or dizziness Category 3			
titanium dioxide 13463-67-7	respiratory system in animals: lung tumors				
ethanol 64-17-5	eyes,respiratory system,CNS,liver,skin,blood,reproductive system				

**Information on toxicological effects**

**Symptoms** May cause redness and tearing of the eyes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

**Numerical measures of toxicity****Acute toxicity**

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	6,981.00 mg/kg
ATEmix (dermal)	22,607.00 mg/kg
ATEmix (inhalation-vapor)	450.00 mg/l

**Unknown acute toxicity** 13.7 % of the mixture consists of ingredient(s) of unknown toxicity

**Component Information**

Chemical Name	Oral LD50	LD50/dermal/rat - mg/kg	Inhalation LC50
ethyl acetate 141-78-6	= 5620 mg/kg ( Rat )	> 18000 mg/kg ( Rabbit ) > 20 mL/kg ( Rabbit )	-
Nitrocellulose 9004-70-0	> 5 g/kg ( Rat )	-	-
n-butyl acetate 123-86-4	= 10768 mg/kg ( Rat )	> 17600 mg/kg ( Rabbit )	= 390 ppm ( Rat ) 4 h
2-Butanone 78-93-3	= 2483 mg/kg ( Rat ) = 2737 mg/kg ( Rat )	= 5000 mg/kg ( Rabbit ) = 6480 mg/kg ( Rabbit )	= 11700 ppm ( Rat ) 4 h
titanium dioxide 13463-67-7	> 10000 mg/kg ( Rat )	-	-
ethanol 64-17-5	= 7060 mg/kg ( Rat )	-	= 124.7 mg/L ( Rat ) 4 h

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** May cause skin irritation.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Irritating to eyes.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** Classification based on data available for ingredients. Contains a known or suspected carcinogen.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Nitrocellulose	-	Group 2A	-	X

9004-70-0				
titanium dioxide 13463-67-7	-	Group 2B	-	X
ethanol 64-17-5	A3	Group 1	Known	X

**Legend**

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No information available.

STOT - single exposure May cause drowsiness or dizziness.

Target Organ Systemic Toxicant - Repeated exposure No information available.

Target organ effects liver, Respiratory system, Eyes, Skin, Central nervous system, blood, Reproductive System, lungs.

Aspiration hazard No information available.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
ethyl acetate 141-78-6	3300: 48 h Desmodesmus subspicatus mg/L EC50	220 - 250: 96 h Pimephales promelas mg/L LC50 flow-through 484: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 352 - 500: 96 h Oncorhynchus mykiss mg/L LC50 semi-static	-	560: 48 h Daphnia magna mg/L EC50 Static
n-butyl acetate 123-86-4	674.7: 72 h Desmodesmus subspicatus mg/L EC50	100: 96 h Lepomis macrochirus mg/L LC50 static 17 - 19: 96 h Pimephales promelas mg/L LC50 flow-through 62: 96 h Leuciscus idus mg/L LC50 static	-	72.8: 24 h Daphnia magna mg/L EC50
2-Butanone 78-93-3	-	3130 - 3320: 96 h Pimephales promelas mg/L LC50 flow-through	-	520: 48 h Daphnia magna mg/L EC50 5091: 48 h Daphnia magna mg/L EC50 4025 - 6440: 48 h Daphnia magna mg/L EC50 Static
ethanol 64-17-5	-	12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 -	-	9268 - 14221: 48 h Daphnia magna mg/L LC50 2: 48 h Daphnia magna mg/L EC50 Static 10800: 24 h Daphnia

		15100: 96 h Pimephales promelas mg/L LC50 flow-through		magna mg/L EC50
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**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

**Component Information**

Chemical Name	Partition coefficient	DOT Marine Pollutant	DOT Severe Marine pollutant
ethyl acetate 141-78-6	0.6		
n-butyl acetate 123-86-4	1.81		
2-Butanone 78-93-3	0.29		
ethanol 64-17-5	-0.32		

**Other adverse effects** No information available.

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Waste from residues/unused products** Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

**US EPA Waste Number** D001, U112 U154 U161

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
ethyl acetate 141-78-6	-	Included in waste stream: F039	-	U112
2-Butanone 78-93-3	U159	Included in waste streams: F005, F039	200.0 mg/L regulatory level	U159

**California Hazardous Waste Status** This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
ethyl acetate 141-78-6	Toxic Ignitable
Nitrocellulose 9004-70-0	Ignitable Reactive
n-butyl acetate 123-86-4	Toxic
2-Butanone 78-93-3	Toxic Ignitable
ethanol 64-17-5	Toxic Ignitable

**14. TRANSPORT INFORMATION**

**DOT**

UN/ID no.	UN1210
Proper shipping name	PRINTING INK
Hazard Class	3
Packing Group	II
Special Provisions	149, IB2, T4, TP1, TP8, 367
Description	UN1210, PRINTING INK, 3, II
Emergency Response Guide Number	129

**TDG**

UN/ID no.	UN1210
Proper shipping name	PRINTING INK
Hazard Class	3
Packing Group	II
Description	UN1210, PRINTING INK, 3, II

**MEX**

UN/ID no.	UN1210
Proper shipping name	PRINTING INK
Hazard Class	3
Special Provisions	163
Packing Group	II
Description	UN1210, PRINTING INK, 3, II

**ICAO (air)**

UN/ID no.	UN1210
Proper shipping name	PRINTING INK
Hazard Class	3
Packing Group	II
Special Provisions	A3, A72, A192
Description	UN1210, PRINTING INK, 3, II

**IATA**

UN/ID no.	UN1210
Hazard Class	3
Packing Group	II
ERG Code	3L
Description	&UN1210, &, 3, II

**IMDG**

UN/ID no.	UN1210
Hazard Class	3
Packing Group	II
EmS-No.	F-E, S-D
Special Provisions	163 367
Description	&UN1210, &, 3, II, (-3°C C.C.)

**RID**

UN/ID no.	UN1210
Proper shipping name	PRINTING INK
Hazard Class	3
Packing Group	II
Classification code	F1
Description	UN1210, PRINTING INK, 3, II
Labels	3

**ADR**

UN/ID no.	UN1210
Proper shipping name	PRINTING INK
Hazard Class	3
Packing Group	II
Classification code	F1

Tunnel restriction code (D/E)  
 Special Provisions 163, 640C, 367  
 Description UN1210, PRINTING INK, 3, II  
 Labels 3

**ADN**

Proper shipping name PRINTING INK  
 Hazard Class 3  
 Packing Group II  
 Classification code F1  
 Special Provisions 163, 640C  
 Description UN1210, PRINTING INK, 3, II  
 Hazard label(s) 3  
 Limited quantity (LQ) 5 L  
 Ventilation VE01

**15. REGULATORY INFORMATION**

International Inventories

TSCA Does not comply  
 DSL/NDSL Does not comply  
 EINECS/ELINCS Does not comply

**Legend:**

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List  
 EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

US Federal Regulations

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard Yes  
 Chronic Health Hazard Yes  
 Fire hazard Yes  
 Sudden release of pressure hazard No  
 Reactive Hazard No

CAA (Clean Air Act)

The following component(s) are listed in the Clean Air Act.

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
n-butyl acetate 123-86-4	5000 lb	-	-	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
ethyl acetate 141-78-6	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
n-butyl acetate 123-86-4	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ



2-Butanone 78-93-3	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
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**WARNING!**

This product can expose you to chemicals including those listed below, which is [are] known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

Chemical Name	California Proposition 65
titanium dioxide - 13463-67-7	Carcinogen
ethanol - 64-17-5	Carcinogen Developmental
4-methylpentan-2-one - 108-10-1	Carcinogen Developmental
methanol - 67-56-1	Developmental

**U.S. State Right-to-Know Regulations****US State Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
ethyl acetate 141-78-6	X	X	X
Nitrocellulose 9004-70-0	X	X	X
n-butyl acetate 123-86-4	X	X	X
2-Butanone 78-93-3	X	X	X
titanium dioxide 13463-67-7	X	X	X
ethanol 64-17-5	X	X	X

**U.S. EPA Label Information****16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

<b>NFPA</b>	Health hazards 2	Flammability 3	Instability 0	Physical and chemical properties -
<b>HMIS</b>	Health hazards 2 *	Flammability 3	Physical hazards 0	Personal protection X
<i>Chronic Hazard Star Legend</i>	<i>* = Chronic Health Hazard</i>			

Prepared By compliance@umarkers.com

Revision Date 03-Mar-2020

Revision Note SDS sections updated.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. No express or implied warranty of merchantability or fitness for a particular purpose or use, with respect to the product information provided herein is given. The manufacturer disclosed in section 1 shall under no circumstance be liable for incidental or consequential damage nor makes any representation

as to the information's accuracy or sufficiency. All suitability of use and safe handling of this product is upon the user. This product is not to be repackaged. Any re-sale or repackaging of this product is a violation of the original terms of sale, and the manufacturer shall not be held responsible whatsoever for the product or use thereof.

**End of Safety Data Sheet**

# SAFETY DATA SHEET

Issuing Date 13-Feb-2020

Revision Date 03-Mar-2020

Revision Number 4

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Product identifier**

**Product Code(s)**

**Product Name**

10607, 10637, 10607R

Orange Metalhead, Orange Metalhead 2, Orange Metalhead Refill

**Component**

**Other means of identification**

**Other Information**

This Safety Data Sheet complies with the requirements of the OSHA Hazard Communication Standard 2012 Final Rule. This product is intended for use by properly trained and qualified professionals after having familiarized themselves with this SDS and understand all hazards to themselves and the environment through a comprehensive training program according to the Hazard Communication Standard 29 CFR 1910.1200, and the Occupational Safety and Health adoption of the Global Harmonization Standard (GHS). Use of this product may present additional hazards, and no guarantee is implied that the hazards and necessary precautions listed in this document are the only ones present. Customers using this product are responsible for determining proper personal protection equipment according to the specific conditions, PPE listed are a minimum standard. This product is not intended for general public use.

**Recommended use of the chemical and restrictions on use**

**Recommended Use**

Permanent marking.

**Uses advised against**

For professional use only.

**Details of the supplier of the safety data sheet**

**Manufacturer Address**

U-Mark, Inc.  
102 Iowa Ave.  
Belleville, IL 62220

**Emergency telephone number**

**24 Hour Emergency Phone Number**

Infotrac 1-800-535-5053 (USA & Canada), 1-352-323-3500 (International)

## 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 2

**Label elements**

**Danger**

**Hazard statements**

Causes serious eye irritation  
May cause cancer  
May cause drowsiness or dizziness  
Highly flammable liquid and vapor

**Appearance** Paint**Physical state** liquid**Odor** Aromatic**Precautionary Statements**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Wash face, hands and any exposed skin thoroughly after handling  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Keep container tightly closed  
 Ground/bond container and receiving equipment  
 Use explosion-proof electrical/ ventilating / lighting/ non-sparking/ equipment  
 Use only non-sparking tools  
 Take precautionary measures against static discharge  
 Keep cool

**Precautionary Statements - Response**

IF exposed: Call a POISON CENTER or doctor/physician  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish

**Precautionary Statements - Storage**

Store locked up  
 Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Other Information**

Not applicable

**Unknown acute toxicity**

13.7 % of the mixture consists of ingredient(s) of unknown toxicity

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Mixture**

Chemical Name	CAS No.	Weight-%
ethyl acetate	141-78-6	40
Nitrocellulose	9004-70-0	10
n-butyl acetate	123-86-4	7
2-Butanone	78-93-3	6
titanium dioxide	13463-67-7	1.8

ethanol	64-17-5	0.97
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#### 4. FIRST AID MEASURES

##### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Call 911 or emergency medical service. Immediately call a POISON CENTER or doctor/physician. Use first aid treatment according to the nature of the injury.
<b>Inhalation</b>	Remove to fresh air. IF exposed or concerned: Get medical advice/attention. Administer oxygen if breathing is difficult. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician. Unconscious persons should be moved to an uncontaminated area and, as necessary, given artificial resuscitation and supplemental oxygen.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Remove material from skin immediately. Wash off immediately with soap and plenty of water for at least 15 minutes. Do not use solvents or thinners to dissolve the material. Take off contaminated clothing and wash before reuse. Get medical attention immediately if symptoms occur. Allergic symptoms may be delayed.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.
<b>Self-protection of the first aider</b>	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

##### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Burning sensation. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Symptoms may include headache, dizziness, thirst, cramping, coughing, and nausea. These symptoms may be delayed. Repeated or prolonged exposure may cause kidney, liver, neurological, central nervous system, eye and skin disorders. See Section 11 for additional Toxicological Information. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Vapors may cause drowsiness and dizziness.
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##### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Treat symptomatically. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. May cause sensitization in susceptible persons.
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#### 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam. Dry chemical, CO <sub>2</sub> , alcohol-resistant foam or water spray. Use water spray or fog; do not use straight streams. Dry sand. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	CAUTION: Use of water spray when fighting fire may be inefficient.

<b>Specific hazards arising from the chemical</b>	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. May be ignited by heat, sparks or flames. Vapors may form explosive mixture with air. Vapors may travel to source of ignition and flash back. In the event of fire and/or explosion do not breathe fumes. Containers may explode when heated. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire may produce irritating, corrosive and/or toxic gases.
<b>Hazardous combustion products</b>	Carbon monoxide. Carbon dioxide (CO <sub>2</sub> ). Hydrocarbons. Nitrogen oxides (NO <sub>x</sub> ).
<b>Explosion data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	Yes.
<b>Special protective equipment for fire-fighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Use only non-sparking tools.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Full encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Wear protective gloves/protective clothing and eye/face protection.

**Other Information** Ventilate the area. Refer to protective measures listed in Sections 7 and 8. Water spray may reduce vapor; but may not prevent ignition in closed spaces.

### Environmental precautions

**Environmental precautions** Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional Ecological Information. Dispose of this material and its container to hazardous or special waste collection point. Prevent entry into waterways, sewers, basements or confined areas.

### Methods and material for containment and cleaning up

**Methods for containment** Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Prevent further leakage or spillage if safe to do so. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Dike to collect large liquid spills.

**Methods for cleaning up** Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Place in appropriate chemical waste container. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Use clean non-sparking tools to collect absorbed material. Use personal protective equipment as required.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**Reference to other sections** See section 8 for more information. See section 13 for more information.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### **Advice on safe handling**

Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. In case of insufficient ventilation, wear suitable respiratory equipment. Ensure adequate ventilation. Wash thoroughly after handling. Do not breathe dust/fume/gas/mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking and explosion proof. Remove all sources of ignition. Remove contaminated clothing and shoes.

### Conditions for safe storage, including any incompatibilities

#### **Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep/store only in original container. Keep away from open flames, hot surfaces and sources of ignition. Keep out of the reach of children. Store locked up.

#### **Packaging materials**

use only with original package - do not repackage.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### **Exposure Limits**

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
ethyl acetate 141-78-6	TWA: 400 ppm	TWA: 400 ppm TWA: 1400 mg/m <sup>3</sup> (vacated) TWA: 400 ppm (vacated) TWA: 1400 mg/m <sup>3</sup>	IDLH: 2000 ppm TWA: 400 ppm TWA: 1400 mg/m <sup>3</sup>
n-butyl acetate 123-86-4	STEL: 200 ppm TWA: 150 ppm	TWA: 150 ppm TWA: 710 mg/m <sup>3</sup> (vacated) TWA: 150 ppm (vacated) TWA: 710 mg/m <sup>3</sup> (vacated) STEL: 200 ppm (vacated) STEL: 950 mg/m <sup>3</sup>	IDLH: 1700 ppm TWA: 150 ppm TWA: 710 mg/m <sup>3</sup> STEL: 200 ppm STEL: 950 mg/m <sup>3</sup>
2-Butanone 78-93-3	STEL: 300 ppm TWA: 200 ppm	TWA: 200 ppm TWA: 590 mg/m <sup>3</sup> (vacated) TWA: 200 ppm (vacated) TWA: 590 mg/m <sup>3</sup> (vacated) STEL: 300 ppm (vacated) STEL: 885 mg/m <sup>3</sup>	IDLH: 3000 ppm TWA: 200 ppm TWA: 590 mg/m <sup>3</sup> STEL: 300 ppm STEL: 885 mg/m <sup>3</sup>
titanium dioxide 13463-67-7	TWA: 10 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup> total dust (vacated) TWA: 10 mg/m <sup>3</sup> total	IDLH: 5000 mg/m <sup>3</sup>

		dust	
ethanol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup> (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m <sup>3</sup>	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>

**Other Information** This product may also contain pigments that are otherwise non hazardous according to the US GHS: REFER TO ACGIH TLV NUISANCE PARTICULATE GUIDANCE OF 10mg/m<sup>3</sup>, 3 mg/m<sup>3</sup> respirable fraction; OSHA PEL 15mg/m<sup>3</sup> total dust, 5mg/m<sup>3</sup> respirable fraction.

**Appropriate engineering controls**

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.

**Hand Protection** Wear suitable gloves. Impervious gloves. Wear nitrile or natural rubber gloves to protect hands from contact. Butyl gloves are best for prolonged contact.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots. Impervious clothing such as Tyvek(R) coveralls for light protection or Saranex(R) 23-P for moderate protection.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. Adequate ventilation should be used as the first measure to ensure airborne thresholds listed in section 8 of this SDS are not exceeded. If respirators are used, they should be used in accordance with the Hazard Communication Standard.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

**Physical state** liquid  
**Appearance** Paint  
**Odor** Aromatic  
**Color** orange  
**Odor threshold** No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	na	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	127 °C / 261 °F	None known
Flash point	-3 °C / 27 °F	
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	<b>Lower flammability limit:</b> No data available



Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	No data available	None known
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No information available	
Oxidizing properties	No information available	

**Other Information**

Softening point	No information available
Molecular weight	No information available
Specific gravity	1.01
Non-Volatile (%)	43 %
VOC Content (g/l)	583
Density	8.41 lbs/gal
Bulk density	No information available

**10. STABILITY AND REACTIVITY**

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Hazardous polymerization	None under normal processing.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Strong acids. Strong bases. Do not store together with acids, oxidizing substances, strong alkalis, or heavy-metal compounds.
Hazardous decomposition products	Carbon oxides. Nitrogen oxides (NOx). Thermal decomposition can lead to release of irritating and toxic gases and vapors.

**11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. May cause drowsiness or dizziness.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chemical Name	Acute toxicity - Oral	Oral LD50	Acute toxicity - Dermal	LD50/dermal/rat - mg/kg
ethyl acetate		= 5620 mg/kg ( Rat )		> 18000 mg/kg ( Rabbit )

141-78-6				) > 20 mL/kg ( Rabbit )
Nitrocellulose 9004-70-0		> 5 g/kg ( Rat )		
n-butyl acetate 123-86-4		= 10768 mg/kg ( Rat )		> 17600 mg/kg ( Rabbit )
2-Butanone 78-93-3		= 2483 mg/kg ( Rat ) = 2737 mg/kg ( Rat )		= 5000 mg/kg ( Rabbit ) = 6480 mg/kg ( Rabbit )
titanium dioxide 13463-67-7		> 10000 mg/kg ( Rat )		
ethanol 64-17-5		= 7060 mg/kg ( Rat )		

Chemical Name	Physical state	Acute toxicity - Inhalation (Dusts/Mists)	Acute toxicity - Inhalation (Gases)	Acute toxicity - Inhalation (Vapors)	Inhalation LC50	LC50 Inh 1-hr Vapor rat/rabbit (no units)	Inhalation LC50 - 4 hour - vapor - mg/L
ethyl acetate 141-78-6	liquid				-	-	-
n-butyl acetate 123-86-4	liquid				= 390 ppm ( Rat ) 4 h	780	1.8527
2-Butanone 78-93-3	liquid				= 11700 ppm ( Rat ) 4 h	23400	34.5018
titanium dioxide 13463-67-7	solid				-	-	-
ethanol 64-17-5	liquid				= 124.7 mg/L ( Rat ) 4 h	-	-

Chemical Name	Acute aquatic toxicity	M-Factor	Chronic aquatic toxicity	M-Factor
ethyl acetate 141-78-6		-	Not classified	-
n-butyl acetate 123-86-4	Category 3	-	Category 3	-
2-Butanone 78-93-3		-	Not classified	-
ethanol 64-17-5	Category 2	-	Category 2	-

Chemical Name	Eyes	Respiratory sensitization	Skin sensitization	Mutagenicity	Mutagenic category 1
ethyl acetate 141-78-6	Category 2				
2-Butanone 78-93-3	Category 2				

Chemical Name	NIOSH - Target Organs	STOT - single exposure	Target Organ Systemic Toxicant - Repeated exposure	Aspiration toxicity	Ozone
ethyl acetate 141-78-6	eyes,respiratory system,skin	H336 - May cause drowsiness or dizziness Category 3			
n-butyl acetate 123-86-4	eyes,CNS,respiratory system,skin	H336 - May cause drowsiness or dizziness Category 3			
2-Butanone	eyes,CNS,respirator	H336 - May cause			

78-93-3	y system,skin	drowsiness or dizziness Category 3			
titanium dioxide 13463-67-7	respiratory system in animals: lung tumors				
ethanol 64-17-5	eyes,respiratory system,CNS,liver,sk in,blood,reproductiv e system				

**Information on toxicological effects**

**Symptoms** May cause redness and tearing of the eyes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

**Numerical measures of toxicity****Acute toxicity**

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	6,981.00 mg/kg
ATEmix (dermal)	22,607.00 mg/kg
ATEmix (inhalation-vapor)	450.00 mg/l

**Unknown acute toxicity** 13.7 % of the mixture consists of ingredient(s) of unknown toxicity

**Component Information**

Chemical Name	Oral LD50	LD50/dermal/rat - mg/kg	Inhalation LC50
ethyl acetate 141-78-6	= 5620 mg/kg ( Rat )	> 18000 mg/kg ( Rabbit ) > 20 mL/kg ( Rabbit )	-
Nitrocellulose 9004-70-0	> 5 g/kg ( Rat )	-	-
n-butyl acetate 123-86-4	= 10768 mg/kg ( Rat )	> 17600 mg/kg ( Rabbit )	= 390 ppm ( Rat ) 4 h
2-Butanone 78-93-3	= 2483 mg/kg ( Rat ) = 2737 mg/kg ( Rat )	= 5000 mg/kg ( Rabbit ) = 6480 mg/kg ( Rabbit )	= 11700 ppm ( Rat ) 4 h
titanium dioxide 13463-67-7	> 10000 mg/kg ( Rat )	-	-
ethanol 64-17-5	= 7060 mg/kg ( Rat )	-	= 124.7 mg/L ( Rat ) 4 h

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** May cause skin irritation.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Irritating to eyes.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** Classification based on data available for ingredients. Contains a known or suspected carcinogen.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Nitrocellulose 9004-70-0	-	Group 2A	-	X
titanium dioxide 13463-67-7	-	Group 2B	-	X
ethanol	A3	Group 1	Known	X

64-17-5			
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**Legend**

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	May cause drowsiness or dizziness.
<b>Target Organ Systemic Toxicant - Repeated exposure</b>	No information available.
<b>Target organ effects</b>	liver, Respiratory system, Eyes, Skin, Central nervous system, blood, Reproductive System, lungs.
<b>Aspiration hazard</b>	No information available.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
ethyl acetate 141-78-6	3300: 48 h Desmodesmus subspicatus mg/L EC50	220 - 250: 96 h Pimephales promelas mg/L LC50 flow-through 484: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 352 - 500: 96 h Oncorhynchus mykiss mg/L LC50 semi-static	-	560: 48 h Daphnia magna mg/L EC50 Static
n-butyl acetate 123-86-4	674.7: 72 h Desmodesmus subspicatus mg/L EC50	100: 96 h Lepomis macrochirus mg/L LC50 static 17 - 19: 96 h Pimephales promelas mg/L LC50 flow-through 62: 96 h Leuciscus idus mg/L LC50 static	-	72.8: 24 h Daphnia magna mg/L EC50
2-Butanone 78-93-3	-	3130 - 3320: 96 h Pimephales promelas mg/L LC50 flow-through	-	520: 48 h Daphnia magna mg/L EC50 5091: 48 h Daphnia magna mg/L EC50 4025 - 6440: 48 h Daphnia magna mg/L EC50 Static
ethanol 64-17-5	-	12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through	-	9268 - 14221: 48 h Daphnia magna mg/L LC50 2: 48 h Daphnia magna mg/L EC50 Static 10800: 24 h Daphnia magna mg/L EC50

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

#### Component Information

Chemical Name	Partition coefficient	DOT Marine Pollutant	DOT Severe Marine pollutant
ethyl acetate 141-78-6	0.6		
n-butyl acetate 123-86-4	1.81		
2-Butanone 78-93-3	0.29		
ethanol 64-17-5	-0.32		

**Other adverse effects** No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

**Waste from residues/unused products** Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

**US EPA Waste Number** D001, U112 U154 U161

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
ethyl acetate 141-78-6	-	Included in waste stream: F039	-	U112
2-Butanone 78-93-3	U159	Included in waste streams: F005, F039	200.0 mg/L regulatory level	U159

**California Hazardous Waste Status** This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
ethyl acetate 141-78-6	Toxic Ignitable
Nitrocellulose 9004-70-0	Ignitable Reactive
n-butyl acetate 123-86-4	Toxic
2-Butanone 78-93-3	Toxic Ignitable
ethanol 64-17-5	Toxic Ignitable

### 14. TRANSPORT INFORMATION

#### DOT

UN/ID no. UN1210  
 Proper shipping name PRINTING INK  
 Hazard Class 3

<b>Packing Group</b>	II
<b>Special Provisions</b>	149, IB2, T4, TP1, TP8, 367
<b>Description</b>	UN1210, PRINTING INK, 3, II
<b>Emergency Response Guide Number</b>	129

**TDG**

<b>UN/ID no.</b>	UN1210
<b>Proper shipping name</b>	PRINTING INK
<b>Hazard Class</b>	3
<b>Packing Group</b>	II
<b>Description</b>	UN1210, PRINTING INK, 3, II

**MEX**

<b>UN/ID no.</b>	UN1210
<b>Proper shipping name</b>	PRINTING INK
<b>Hazard Class</b>	3
<b>Special Provisions</b>	163
<b>Packing Group</b>	II
<b>Description</b>	UN1210, PRINTING INK, 3, II

**ICAO (air)**

<b>UN/ID no.</b>	UN1210
<b>Proper shipping name</b>	PRINTING INK
<b>Hazard Class</b>	3
<b>Packing Group</b>	II
<b>Special Provisions</b>	A3, A72, A192
<b>Description</b>	UN1210, PRINTING INK, 3, II

**IATA**

<b>UN/ID no.</b>	UN1210
<b>Hazard Class</b>	3
<b>Packing Group</b>	II
<b>ERG Code</b>	3L
<b>Description</b>	&UN1210, &, 3, II

**IMDG**

<b>UN/ID no.</b>	UN1210
<b>Hazard Class</b>	3
<b>Packing Group</b>	II
<b>EmS-No.</b>	F-E, S-D
<b>Special Provisions</b>	163 367
<b>Description</b>	&UN1210, &, 3, II, (-3°C C.C.)

**RID**

<b>UN/ID no.</b>	UN1210
<b>Proper shipping name</b>	PRINTING INK
<b>Hazard Class</b>	3
<b>Packing Group</b>	II
<b>Classification code</b>	F1
<b>Description</b>	UN1210, PRINTING INK, 3, II
<b>Labels</b>	3

**ADR**

<b>UN/ID no.</b>	UN1210
<b>Proper shipping name</b>	PRINTING INK
<b>Hazard Class</b>	3
<b>Packing Group</b>	II
<b>Classification code</b>	F1
<b>Tunnel restriction code</b>	(D/E)
<b>Special Provisions</b>	163, 640C, 367
<b>Description</b>	UN1210, PRINTING INK, 3, II
<b>Labels</b>	3

**ADN**

Proper shipping name	PRINTING INK
Hazard Class	3
Packing Group	II
Classification code	F1
Special Provisions	163, 640C
Description	UN1210, PRINTING INK, 3, II
Hazard label(s)	3
Limited quantity (LQ)	5 L
Ventilation	VE01

<b>15. REGULATORY INFORMATION</b>
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**International Inventories**

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**US Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

**CAA (Clean Air Act)**

The following component(s) are listed in the Clean Air Act.

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
n-butyl acetate 123-86-4	5000 lb	-	-	X

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
ethyl acetate 141-78-6	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
n-butyl acetate 123-86-4	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
2-Butanone 78-93-3	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

**WARNING!**

This product can expose you to chemicals including those listed below, which is [are] known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

Chemical Name	California Proposition 65
titanium dioxide - 13463-67-7	Carcinogen
ethanol - 64-17-5	Carcinogen Developmental
4-methylpentan-2-one - 108-10-1	Carcinogen Developmental
methanol - 67-56-1	Developmental

**U.S. State Right-to-Know Regulations****US State Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
ethyl acetate 141-78-6	X	X	X
Nitrocellulose 9004-70-0	X	X	X
n-butyl acetate 123-86-4	X	X	X
2-Butanone 78-93-3	X	X	X
titanium dioxide 13463-67-7	X	X	X
ethanol 64-17-5	X	X	X

**U.S. EPA Label Information****16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

<b>NFPA</b>	Health hazards 2	Flammability 3	Instability 0	Physical and chemical properties -
<b>HMIS</b>	Health hazards 2 *	Flammability 3	Physical hazards 0	Personal protection X
<i>Chronic Hazard Star Legend</i>	<i>* = Chronic Health Hazard</i>			

Prepared By compliance@umarkers.com

Revision Date 03-Mar-2020

Revision Note SDS sections updated.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. No express or implied warranty of merchantability or fitness for a particular purpose or use, with respect to the product information provided herein is given. The manufacturer disclosed in section 1 shall under no circumstance be liable for incidental or consequential damage nor makes any representation as to the information's accuracy or sufficiency. All suitability of use and safe handling of this product is upon the user. This product is not to be repackaged. Any re-sale or repackaging of this product is a violation of the original terms of sale, and the manufacturer shall not be held responsible whatsoever for the product or use thereof.



# SAFETY DATA SHEET

Issuing Date 03-Feb-2020

Revision Date 03-Mar-2020

Revision Number 3

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Product identifier**

**Product Code(s)**

**Product Name**

10610, 10640, 10610R

Silver Metalhead, Silver Metalhead 2, Silver Metalhead Refill

**Component**

**Other means of identification**

**Other Information**

This Safety Data Sheet complies with the requirements of the OSHA Hazard Communication Standard 2012 Final Rule. This product is intended for use by properly trained and qualified professionals after having familiarized themselves with this SDS and understand all hazards to themselves and the environment through a comprehensive training program according to the Hazard Communication Standard 29 CFR 1910.1200, and the Occupational Safety and Health adoption of the Global Harmonization Standard (GHS). Use of this product may present additional hazards, and no guarantee is implied that the hazards and necessary precautions listed in this document are the only ones present. Customers using this product are responsible for determining proper personal protection equipment according to the specific conditions, PPE listed are a minimum standard. This product is not intended for general public use.

**Recommended use of the chemical and restrictions on use**

**Recommended Use**

Permanent marking.

**Uses advised against**

For professional use only.

**Details of the supplier of the safety data sheet**

**Manufacturer Address**

U-Mark, Inc.

102 Iowa Ave.

Belleville, IL 62220

**Emergency telephone number**

**24 Hour Emergency Phone Number**

Infotrac 1-800-535-5053 (USA & Canada), 1-352-323-3500 (International)

## 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 2

**Label elements**

**Danger**

**Hazard statements**

Causes serious eye irritation

May cause cancer

May cause drowsiness or dizziness

Highly flammable liquid and vapor

**Appearance** Paint**Physical state** liquid**Odor** Aromatic**Precautionary Statements**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Wash face, hands and any exposed skin thoroughly after handling  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Keep container tightly closed  
 Ground/bond container and receiving equipment  
 Use explosion-proof electrical/ ventilating / lighting/ non-sparking/ equipment  
 Use only non-sparking tools  
 Take precautionary measures against static discharge  
 Keep cool

**Precautionary Statements - Response**

IF exposed: Call a POISON CENTER or doctor/physician  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish

**Precautionary Statements - Storage**

Store locked up  
 Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Other Information**

Harmful to aquatic life with long lasting effects Harmful to aquatic life

**Unknown acute toxicity**

9.9 % of the mixture consists of ingredient(s) of unknown toxicity

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Mixture**

Chemical Name	CAS No.	Weight-%
ethyl acetate	141-78-6	37
Nitrocellulose	9004-70-0	11
n-butyl acetate	123-86-4	7
2-Butanone	78-93-3	6
calumet 420-460	64742-47-8	4

aluminium powder (pyrophoric)	7429-90-5	3
ethanol	64-17-5	1.067

Chemical Additions this product may contain trace amounts of lead and cadmium as a byproduct of the aluminum pigment

## 4. FIRST AID MEASURES

### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Call 911 or emergency medical service. Immediately call a POISON CENTER or doctor/physician. Use first aid treatment according to the nature of the injury.
<b>Inhalation</b>	Remove to fresh air. IF exposed or concerned: Get medical advice/attention. Administer oxygen if breathing is difficult. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician. Unconscious persons should be moved to an uncontaminated area and, as necessary, given artificial resuscitation and supplemental oxygen.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Remove material from skin immediately. Wash off immediately with soap and plenty of water for at least 15 minutes. Do not use solvents or thinners to dissolve the material. Take off contaminated clothing and wash before reuse. Get medical attention immediately if symptoms occur. Allergic symptoms may be delayed.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.
<b>Self-protection of the first aider</b>	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Burning sensation. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Symptoms may include headache, dizziness, thirst, cramping, coughing, and nausea. These symptoms may be delayed. Repeated or prolonged exposure may cause kidney, liver, neurological, central nervous system, eye and skin disorders. See Section 11 for additional Toxicological Information. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Vapors may cause drowsiness and dizziness.
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### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Treat symptomatically. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. May cause sensitization in susceptible persons.
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## 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam. Dry chemical, CO <sub>2</sub> , alcohol-resistant foam or water spray. Use water spray or fog; do not use straight streams. Dry sand. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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<b>Unsuitable extinguishing media</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Specific hazards arising from the chemical</b>	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. May be ignited by heat, sparks or flames. Vapors may form explosive mixture with air. Vapors may travel to source of ignition and flash back. In the event of fire and/or explosion do not breathe fumes. Containers may explode when heated. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire may produce irritating, corrosive and/or toxic gases.
<b>Hazardous combustion products</b>	Carbon monoxide. Carbon dioxide (CO <sub>2</sub> ). Hydrocarbons. Nitrogen oxides (NO <sub>x</sub> ).
<b>Explosion data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	Yes.
<b>Special protective equipment for fire-fighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Use only non-sparking tools.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Full encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Wear protective gloves/protective clothing and eye/face protection.
<b>Other Information</b>	Ventilate the area. Refer to protective measures listed in Sections 7 and 8. Water spray may reduce vapor; but may not prevent ignition in closed spaces.

### Environmental precautions

<b>Environmental precautions</b>	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional Ecological Information. Dispose of this material and its container to hazardous or special waste collection point. Prevent entry into waterways, sewers, basements or confined areas.
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### Methods and material for containment and cleaning up

<b>Methods for containment</b>	Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Prevent further leakage or spillage if safe to do so. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Dike to collect large liquid spills.
<b>Methods for cleaning up</b>	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Place in appropriate chemical waste container. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Use clean non-sparking tools to collect absorbed material. Use personal protective equipment as required.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

**Reference to other sections** See section 8 for more information. See section 13 for more information.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### **Advice on safe handling**

Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. In case of insufficient ventilation, wear suitable respiratory equipment. Ensure adequate ventilation. Wash thoroughly after handling. Do not breathe dust/fume/gas/mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking and explosion proof. Remove all sources of ignition. Remove contaminated clothing and shoes.

### Conditions for safe storage, including any incompatibilities

#### **Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep/store only in original container. Keep away from open flames, hot surfaces and sources of ignition. Keep out of the reach of children. Store locked up.

#### **Packaging materials**

use only with original package - do not repackage.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### **Exposure Limits**

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
ethyl acetate 141-78-6	TWA: 400 ppm	TWA: 400 ppm TWA: 1400 mg/m <sup>3</sup> (vacated) TWA: 400 ppm (vacated) TWA: 1400 mg/m <sup>3</sup>	IDLH: 2000 ppm TWA: 400 ppm TWA: 1400 mg/m <sup>3</sup>
n-butyl acetate 123-86-4	STEL: 200 ppm TWA: 150 ppm	TWA: 150 ppm TWA: 710 mg/m <sup>3</sup> (vacated) TWA: 150 ppm (vacated) TWA: 710 mg/m <sup>3</sup> (vacated) STEL: 200 ppm (vacated) STEL: 950 mg/m <sup>3</sup>	IDLH: 1700 ppm TWA: 150 ppm TWA: 710 mg/m <sup>3</sup> STEL: 200 ppm STEL: 950 mg/m <sup>3</sup>
2-Butanone 78-93-3	STEL: 300 ppm TWA: 200 ppm	TWA: 200 ppm TWA: 590 mg/m <sup>3</sup> (vacated) TWA: 200 ppm (vacated) TWA: 590 mg/m <sup>3</sup> (vacated) STEL: 300 ppm (vacated) STEL: 885 mg/m <sup>3</sup>	IDLH: 3000 ppm TWA: 200 ppm TWA: 590 mg/m <sup>3</sup> STEL: 300 ppm STEL: 885 mg/m <sup>3</sup>

aluminium powder (pyrophoric) 7429-90-5	TWA: 1 mg/m <sup>3</sup> respirable fraction	TWA: 15 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 15 mg/m <sup>3</sup> total dust (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 5 mg/m <sup>3</sup> Al Aluminum	TWA: 10 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable dust TWA: 5 mg/m <sup>3</sup> Al
ethanol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup> (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m <sup>3</sup>	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>

**Other Information** This product may also contain pigments that are otherwise non hazardous according to the US GHS: REFER TO ACGIH TLV NUISANCE PARTICULATE GUIDANCE OF 10mg/m<sup>3</sup> , 3 mg/m<sup>3</sup> respirable fraction; OSHA PEL 15mg/m<sup>3</sup> total dust, 5mg/m<sup>3</sup> respirable fraction.

**Appropriate engineering controls**

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.

**Hand Protection** Wear suitable gloves. Impervious gloves. Wear nitrile or natural rubber gloves to protect hands from contact. Butyl gloves are best for prolonged contact.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots. Impervious clothing such as Tyvek(R) coveralls for light protection or Saranex(R) 23-P for moderate protection.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. Adequate ventilation should be used as the first measure to ensure airborne thresholds listed in section 8 of this SDS are not exceeded. If respirators are used, they should be used in accordance with the Hazard Communication Standard.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

**Physical state** liquid  
**Appearance** Paint  
**Odor** Aromatic  
**Color** metallic  
**Odor threshold** No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	na	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	127 °C / 261 °F	None known

<b>Flash point</b>	-3 °C / 27 °F		
<b>Evaporation rate</b>	No data available	None known	
<b>Flammability (solid, gas)</b>	No data available	None known	
<b>Flammability Limit in Air</b>		None known	
<b>Upper flammability limit:</b>	No data available	<b>Lower flammability limit:</b>	No data available
<b>Vapor pressure</b>	No data available	None known	
<b>Vapor density</b>	No data available	None known	
<b>Relative density</b>	No data available	None known	
<b>Water solubility</b>	No data available	None known	
<b>Solubility in other solvents</b>	No data available	None known	
<b>Partition coefficient</b>	No data available	None known	
<b>Autoignition temperature</b>	No data available	None known	
<b>Decomposition temperature</b>	No data available	None known	
<b>Kinematic viscosity</b>	No data available	None known	
<b>Dynamic viscosity</b>	No data available	None known	
<b>Explosive properties</b>	No information available		
<b>Oxidizing properties</b>	No information available		
<b><u>Other Information</u></b>			
<b>Softening point</b>	No information available		
<b>Molecular weight</b>	No information available		
<b>Specific gravity</b>	1		
<b>Non-Volatile (%)</b>	42 %		
<b>VOC Content (g/l)</b>	583		
<b>Density</b>	8.43 lbs/gal		
<b>Bulk density</b>	No information available		

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	None under normal processing.
<b>Conditions to avoid</b>	Heat, flames and sparks.
<b>Incompatible materials</b>	Strong acids. Strong bases. Do not store together with acids, oxidizing substances, strong alkalis, or heavy-metal compounds.
<b>Hazardous decomposition products</b>	Carbon oxides. Nitrogen oxides (NOx). Thermal decomposition can lead to release of irritating and toxic gases and vapors.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. May cause drowsiness or dizziness.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation.

**Ingestion**

Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chemical Name	Acute toxicity - Oral	Oral LD50	Acute toxicity - Dermal	LD50/dermal/rat - mg/kg
ethyl acetate 141-78-6		= 5620 mg/kg ( Rat )		> 18000 mg/kg ( Rabbit ) > 20 mL/kg ( Rabbit )
Nitrocellulose 9004-70-0		> 5 g/kg ( Rat )		
n-butyl acetate 123-86-4		= 10768 mg/kg ( Rat )		> 17600 mg/kg ( Rabbit )
2-Butanone 78-93-3		= 2483 mg/kg ( Rat ) = 2737 mg/kg ( Rat )		= 5000 mg/kg ( Rabbit ) = 6480 mg/kg ( Rabbit )
calumet 420-460 64742-47-8		> 5000 mg/kg ( Rat )		> 2000 mg/kg ( Rabbit )
ethanol 64-17-5		= 7060 mg/kg ( Rat )		

Chemical Name	Physical state	Acute toxicity - Inhalation (Dusts/Mists)	Acute toxicity - Inhalation (Gases)	Acute toxicity - Inhalation (Vapors)	Inhalation LC50	LC50 Inh 1-hr Vapor rat/rabbit (no units)	Inhalation LC50 - 4 hour - vapor - mg/L
ethyl acetate 141-78-6	liquid				-	-	-
n-butyl acetate 123-86-4	liquid				= 390 ppm ( Rat ) 4 h	780	1.8527
2-Butanone 78-93-3	liquid				= 11700 ppm ( Rat ) 4 h	23400	34.5018
calumet 420-460 64742-47-8	-				> 5.2 mg/L ( Rat ) 4 h	-	-
aluminium powder (pyrophoric) 7429-90-5	solid				-	-	-
ethanol 64-17-5	liquid				= 124.7 mg/L ( Rat ) 4 h	-	-

Chemical Name	Acute aquatic toxicity	M-Factor	Chronic aquatic toxicity	M-Factor
ethyl acetate 141-78-6		-	Not classified	-
n-butyl acetate 123-86-4	Category 3	-	Category 3	-
2-Butanone 78-93-3		-	Not classified	-
calumet 420-460 64742-47-8	Category 2	-	Category 2	-
ethanol 64-17-5	Category 2	-	Category 2	-

Chemical Name	Eyes	Respiratory sensitization	Skin sensitization	Mutagenicity	Mutagenic category 1
ethyl acetate 141-78-6	Category 2				
2-Butanone 78-93-3	Category 2				

Chemical Name	NIOSH - Target	STOT - single	Target Organ	Aspiration toxicity	Ozone



	Organs	exposure	Systemic Toxicant - Repeated exposure		
ethyl acetate 141-78-6	eyes,respiratory system,skin	H336 - May cause drowsiness or dizziness Category 3			
n-butyl acetate 123-86-4	eyes,CNS,respiratory system,skin	H336 - May cause drowsiness or dizziness Category 3			
2-Butanone 78-93-3	eyes,CNS,respiratory system,skin	H336 - May cause drowsiness or dizziness Category 3			
calumet 420-460 64742-47-8	-			Category 1	
aluminium powder (pyrophoric) 7429-90-5	eyes,respiratory system,skin skin,respiratory system				
ethanol 64-17-5	eyes,respiratory system,CNS,liver,skin,blood,reproductive system				

#### Information on toxicological effects

##### Symptoms

May cause redness and tearing of the eyes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

#### Numerical measures of toxicity

##### Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	7,814.00 mg/kg
ATEmix (dermal)	17,703.00 mg/kg
ATEmix (inhalation-dust/mist)	11,687.00 mg/l
ATEmix (inhalation-vapor)	521.00 mg/l

##### Unknown acute toxicity

9.9 % of the mixture consists of ingredient(s) of unknown toxicity

#### Component Information

Chemical Name	Oral LD50	LD50/dermal/rat - mg/kg	Inhalation LC50
ethyl acetate 141-78-6	= 5620 mg/kg ( Rat )	> 18000 mg/kg ( Rabbit ) > 20 mL/kg ( Rabbit )	-
Nitrocellulose 9004-70-0	> 5 g/kg ( Rat )	-	-
n-butyl acetate 123-86-4	= 10768 mg/kg ( Rat )	> 17600 mg/kg ( Rabbit )	= 390 ppm ( Rat ) 4 h
2-Butanone 78-93-3	= 2483 mg/kg ( Rat ) = 2737 mg/kg ( Rat )	= 5000 mg/kg ( Rabbit ) = 6480 mg/kg ( Rabbit )	= 11700 ppm ( Rat ) 4 h
calumet 420-460 64742-47-8	> 5000 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 5.2 mg/L ( Rat ) 4 h
ethanol 64-17-5	= 7060 mg/kg ( Rat )	-	= 124.7 mg/L ( Rat ) 4 h

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

##### Skin corrosion/irritation

May cause skin irritation.

<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Irritating to eyes.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	Classification based on data available for ingredients. Contains a known or suspected carcinogen.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Nitrocellulose 9004-70-0	-	Group 2A	-	X
ethanol 64-17-5	A3	Group 1	Known	X

#### Legend

**ACGIH (American Conference of Governmental Industrial Hygienists)**

**IARC (International Agency for Research on Cancer)**

**NTP (National Toxicology Program)**

**OSHA (Occupational Safety and Health Administration of the US Department of Labor)**

<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	May cause drowsiness or dizziness.
<b>Target Organ Systemic Toxicant - Repeated exposure</b>	No information available.
<b>Target organ effects</b>	liver, Respiratory system, Eyes, Skin, Central nervous system, blood, Reproductive System, lungs, Lymphatic System.
<b>Aspiration hazard</b>	No information available.

## 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
ethyl acetate 141-78-6	3300: 48 h Desmodesmus subspicatus mg/L EC50	220 - 250: 96 h Pimephales promelas mg/L LC50 flow-through 484: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 352 - 500: 96 h Oncorhynchus mykiss mg/L LC50 semi-static	-	560: 48 h Daphnia magna mg/L EC50 Static
n-butyl acetate 123-86-4	674.7: 72 h Desmodesmus subspicatus mg/L EC50	100: 96 h Lepomis macrochirus mg/L LC50 static 17 - 19: 96 h Pimephales promelas mg/L LC50 flow-through 62: 96 h Leuciscus idus mg/L LC50 static	-	72.8: 24 h Daphnia magna mg/L EC50
2-Butanone	-	3130 - 3320: 96 h	-	520: 48 h Daphnia

78-93-3		Pimephales promelas mg/L LC50 flow-through		magna mg/L EC50 5091: 48 h Daphnia magna mg/L EC50 4025 - 6440: 48 h Daphnia magna mg/L EC50 Static
calumet 420-460 64742-47-8	-	45: 96 h Pimephales promelas mg/L LC50 flow-through 2.2: 96 h Lepomis macrochirus mg/L LC50 static 2.4: 96 h Oncorhynchus mykiss mg/L LC50 static	-	4720: 96 h Den-dronereides heteropoda mg/L LC50
ethanol 64-17-5	-	12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through	-	9268 - 14221: 48 h Daphnia magna mg/L LC50 2: 48 h Daphnia magna mg/L EC50 Static 10800: 24 h Daphnia magna mg/L EC50

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

#### Component Information

Chemical Name	Partition coefficient	DOT Marine Pollutant	DOT Severe Marine pollutant
ethyl acetate 141-78-6	0.6		
n-butyl acetate 123-86-4	1.81		
2-Butanone 78-93-3	0.29		
ethanol 64-17-5	-0.32		

**Other adverse effects** No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

**Waste from residues/unused products** Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

**US EPA Waste Number** D001, U112 U154 U161

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
ethyl acetate 141-78-6	-	Included in waste stream: F039	-	U112
2-Butanone 78-93-3	U159	Included in waste streams: F005, F039	200.0 mg/L regulatory level	U159

**California Hazardous Waste Status** This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
ethyl acetate 141-78-6	Toxic Ignitable
Nitrocellulose 9004-70-0	Ignitable Reactive
n-butyl acetate 123-86-4	Toxic
2-Butanone 78-93-3	Toxic Ignitable
aluminium powder (pyrophoric) 7429-90-5	Ignitable powder
ethanol 64-17-5	Toxic Ignitable

## 14. TRANSPORT INFORMATION

### DOT

**UN/ID no.** UN1210  
**Proper shipping name** PRINTING INK  
**Hazard Class** 3  
**Packing Group** II  
**Special Provisions** 149, IB2, T4, TP1, TP8, 367  
**Description** UN1210, PRINTING INK, 3, II  
**Emergency Response Guide Number** 129

### TDG

**UN/ID no.** UN1210  
**Proper shipping name** PRINTING INK  
**Hazard Class** 3  
**Packing Group** II  
**Description** UN1210, PRINTING INK, 3, II

### MEX

**UN/ID no.** UN1210  
**Proper shipping name** PRINTING INK  
**Hazard Class** 3  
**Special Provisions** 163  
**Packing Group** II  
**Description** UN1210, PRINTING INK, 3, II

### ICAO (air)

**UN/ID no.** UN1210  
**Proper shipping name** PRINTING INK  
**Hazard Class** 3  
**Packing Group** II  
**Special Provisions** A3, A72, A192  
**Description** UN1210, PRINTING INK, 3, II

### IATA

**UN/ID no.** UN1210  
**Hazard Class** 3  
**Packing Group** II  
**ERG Code** 3L  
**Description** &UN1210, &, 3, II

### IMDG

**UN/ID no.** UN1210  
**Hazard Class** 3

Packing Group II  
 EmS-No. F-E, S-D  
 Special Provisions 163 367  
 Description &UN1210, &, 3, II, (-3°C C.C.)

**RID**

UN/ID no. UN1210  
 Proper shipping name PRINTING INK  
 Hazard Class 3  
 Packing Group II  
 Classification code F1  
 Description UN1210, PRINTING INK, 3, II  
 Labels 3

**ADR**

UN/ID no. UN1210  
 Proper shipping name PRINTING INK  
 Hazard Class 3  
 Packing Group II  
 Classification code F1  
 Tunnel restriction code (D/E)  
 Special Provisions 163, 640C, 367  
 Description UN1210, PRINTING INK, 3, II  
 Labels 3

**ADN**

Proper shipping name PRINTING INK  
 Hazard Class 3  
 Packing Group II  
 Classification code F1  
 Special Provisions 163, 640C  
 Description UN1210, PRINTING INK, 3, II  
 Hazard label(s) 3  
 Limited quantity (LQ) 5 L  
 Ventilation VE01

## 15. REGULATORY INFORMATION

**International Inventories**

TSCA Complies  
 DSL/NDSL Complies  
 EINECS/ELINCS Complies

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**US Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical Name	SARA 313 - Threshold Values %
aluminium powder (pyrophoric) 7429-90-5	1.0

**SARA 311/312 Hazard Categories**

Acute health hazard Yes  
 Chronic Health Hazard Yes  
 Fire hazard Yes  
 Sudden release of pressure hazard No

Reactive Hazard

No

**CAA (Clean Air Act)**

The following component(s) are listed in the Clean Air Act.

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
n-butyl acetate 123-86-4	5000 lb	-	-	X

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
ethyl acetate 141-78-6	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
n-butyl acetate 123-86-4	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
2-Butanone 78-93-3	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

**WARNING!**This product can expose you to chemicals including those listed below, which is [are] known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

Chemical Name	California Proposition 65
ethanol - 64-17-5	Carcinogen Developmental
4-methylpentan-2-one - 108-10-1	Carcinogen Developmental
methanol - 67-56-1	Developmental
Lead - 7439-92-1	Carcinogen Developmental Female Reproductive Male Reproductive
cadmium - 7440-43-9	Carcinogen Developmental Male Reproductive

**U.S. State Right-to-Know Regulations****US State Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
ethyl acetate 141-78-6	X	X	X
Nitrocellulose 9004-70-0	X	X	X
n-butyl acetate 123-86-4	X	X	X

2-Butanone 78-93-3	X	X	X
aluminium powder (pyrophoric) 7429-90-5	X	X	X
ethanol 64-17-5	X	X	X

**U.S. EPA Label Information**

**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

**NFPA** Health hazards 2 Flammability 3 Instability 0 Physical and chemical properties -  
**HMIS** Health hazards 2 \* Flammability 3 Physical hazards 0 Personal protection X  
*Chronic Hazard Star Legend \* = Chronic Health Hazard*

**Prepared By** compliance@umarkers.com

**Revision Date** 03-Mar-2020

**Revision Note** SDS sections updated.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. No express or implied warranty of merchantability or fitness for a particular purpose or use, with respect to the product information provided herein is given. The manufacturer disclosed in section 1 shall under no circumstance be liable for incidental or consequential damage nor makes any representation as to the information's accuracy or sufficiency. All suitability of use and safe handling of this product is upon the user. This product is not to be repackaged. Any re-sale or repackaging of this product is a violation of the original terms of sale, and the manufacturer shall not be held responsible whatsoever for the product or use thereof.

**End of Safety Data Sheet**