GHS CLASSIFICATION

Physical Hazards
Flammable Liquid, Category 2

Health Hazards
Acute Toxicity:
Oral: Category 4
Dermal: Category 5
Inhalation: Category 4
Skin Corrosion/Irritation: Category 3
Serious Eye Damage/Eye Irritation: Category 2A
Skin Sensitization: Not Classified
Respiratory Sensitization: Not Classified
Germ Cell Mutagenicity: Not Classified
Carcinogenicity: Category 2
Reproductive Toxicology: Not Classified
Target Organ Systemic Toxicity - Single Exposure: Category 3
Target Organ Systemic Toxicity - Repeated Exposure: Not Classified
Aspiration Toxicity: Not Classified
GHS Label elements, including precautionary statements

GHS02: Flammable
GHS08: Severe Health Hazard
Signal Word: Danger

Hazard Statements:
H225 - Highly flammable liquid and vapor
H302 - Harmful if swallowed.
H313 - May be harmful in contact with skin.
H316 - Causes mild skin irritation.
H318 - Causes serious eye damage.
H319 - Causes serious eye irritation
H335 + H336 - May cause respiratory irritation, and drowsiness or dizziness.
H351 - Suspected of causing cancer. Contains a chemical classified by the US EPA as a suspected possible carcinogen.

Precautionary Statements:
P102 - Keep out of reach of children.
P210 - Keep away from heat/sparks/open flames/hot surfaces – no smoking.
P240 - Ground/Bond container and receiving equipment.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P262 - Do not get in eyes, on skin, or on clothing.
P264 - Wash hands thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P362 - Take off contaminated clothing and wash before reuse.

EUH066 - Repeated exposure may cause skin dryness or cracking.
Hazard not otherwise classified (HNOC) or not covered by GHS.
May form explosive peroxides.

Summary Of Acute Hazards
Overexposure may cause coughing, shortness of breath, dizziness, central nervous system depression, intoxication and collapse. It may cause irritation to the respiratory tract and to other mucous membranes.

Route Of Exposure, Signs And Symptoms

INHALATION
Overexposure may cause coughing, shortness of breath, dizziness, central nervous system depression, intoxication and collapse. It may cause irritation to the respiratory tract and to other mucous membranes.

EYE CONTACT
Severely irritating. If not removed promptly, will injure eye tissue, which can result in permanent damage.

SKIN CONTACT
Frequent or prolonged contact may irritate and cause dermatitis. Low order of toxicity.
Section 3 – Composition/Information on Ingredients

**Ingredient:** Methyl Ethyl Ketone  
Percentage By Weight: 15-30  
CAS Number: 78-93-3  
EC#: 606-002-00-3  

**Ingredient:** Tetrahydrofuran  
Percentage By Weight: 20-50  
CAS Number: 109-99-9  
EC#: 603-025-00-0  

**Ingredient:** Cyclohexanone  
Percentage By Weight: 5-15  
CAS Number: 108-94-1  
EC#: 606-010-00-7  

**Ingredient:** Acetone  
Percentage By Weight: 10-30  
CAS Number: 67-64-1  
EC#: 200-662-2

Section 4 – First Aid Measures

If inhaled: If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

If on skin: Immediately flush with large amounts of water; use soap if available. Remove contaminated clothing.

If in eyes: Immediately flush with large amounts of water for at least 15 minutes. Get prompt medical attention.

If swallowed: If swallowed, DO NOT induce vomiting. Keep at rest. Get prompt medical attention.

INGESTION
Low order of toxicity. Small amounts of the liquid aspirated into the respiratory system during ingestion, or from vomiting, may cause bronchiopneumonia or pulmonary edema.

SUMMARY OF CHRONIC HAZARDS
Repeated or prolonged exposure may cause signs of central nervous system depression and respiratory irritation. This material has been shown to induce tumors in laboratory animals.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Individuals with pre-existing or chronic diseases of the eyes, skin, respiratory system, cardiovascular system, gastrointestinal system, liver, or kidneys may have increased susceptibility to excessive exposure.
Section 5 – Fire Fighting Measures

Conditions Of Flammability
Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

Suitable Extinguishing Media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special Protective Equipment For Fire-Fighters
Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous Combustion Products
Hazardous decomposition products formed under fire conditions (carbon oxides.)

Further Information
Use water spray to cool unopened containers.

Unusual Fire And Explosion Hazards:
Extremely flammable – very low flash point. Vapors are heavier than air and may travel along ground or to low spots at considerable distance to a source of ignition resulting in potential flashback. Burning liquid may float on water. Heat may build up pressure and rupture closed containers.

Section 6 – Accidental Release Measures

Personal Precautions
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Ventilate area with natural or explosion-proof, forced air ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environmental Precautions
Prevent further leakage or spillage if safe to do so. Avoid flushing into sewers, drains, waterways, and soil.

Methods And Materials For Containment And Cleaning Up
Use absorbent materials to prevent footing hazard and to contain, then collect and place in container for disposal according to local regulations (see section 13).

Section 7 – Handling and Storage

Precautions For Safe Handling
Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Avoid prolonged or repeated contact with skin or clothing. If transferring this material to other containers, ground all containers to avoid static electricity buildup and discharge which may ignite flammable vapors.

Conditions For Safe Storage
Do not store near heat, sparks, or open flames. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Empty containers may contain residues and vapors; treat as if full and observe all products precautions. Do not reuse empty containers.

KEEP OUT OF REACH OF CHILDREN.
Section 8 – Exposure Controls/Personal Protection

### Ingredient Units

**Methyl Ethyl Ketone**
- ACGIH TLV: 200 ppm
- OSHA PEL: 200 ppm
- STEL: 300 ppm

**Tetrahydrofuran**
- ACGIH TLV: 50 ppm
- OSHA PEL: 200 ppm
- STEL: 250 ppm

**Cyclohexanone**
- ACGIH TLV: 20 ppm (skin)
- OSHA PEL: 50 ppm

**Acetone**
- ACGIH TLV: 500 ppm
- OSHA PEL: 1000 ppm
- STEL: 750 ppm

**Respiratory Protection (Specify Type):** In confined poorly ventilated areas, use NIOSH/MSHA approved air purifying or supplied air purifying or supplied air respirators.

**Ventilation – Local Exhaust:** Acceptable

**Special:** Explosion-proof equipment.

**Mechanical (General):** Preferable

**Other:** N/A

**Protective Gloves:** Wear rubber gloves.

**Eye Protection:** Chemical splash goggles (ANSI Z-87.1 or equivalent)

**Other Protective Clothing Or Equipment:** Coveralls recommended.

**Work/Hygienic Practices:** Where use can result in skin contact, wash exposed areas thoroughly before eating, drinking, smoking, or leaving work area. Launder contaminated clothing before reuse.

Section 9 – Physical and Chemical Properties

- Boiling point: 151°F (66°C) @ 760 mmHg
- Specific gravity (H₂O = 1): 0.91
- Vapor pressure (mmHg): 140 @ 68°F (20°C)
- Melting point: N/A
- Vapor Density (Air = 1): 2.5
- Evaporation rate (Ethyl Acetate = 1): 6
- Appearance/Odor: Liquid/Pungent odor
- Solubility in water: 30%
**Section 10 – Stability and Reactivity**

**Chemical Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Can form potentially explosive peroxides upon long standing in air. Vapors may form explosive mixture with air.

**Conditions To Avoid:** Heat, sparks, open flames, and strong oxidizing, acidic and basic conditions.

**Incompatibility (Materials To Avoid):** Oxidizers, acids and bases.

**Hazardous Decomposition Products:** CO, CO\(_2\) HCl and fragmented hydrocarbons.

**Hazardous Polymerization:** Will not occur.

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**Section 11 – Toxicology Information**

**Chronic Health Hazards**

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

Tetrahydrofuran – The National Toxicology Program has reported that exposures of mice and rats to THF vapor levels up to 1800 ppm 6hr/day, 5 days/week for their lifetime caused an incidence of kidney tumors in male rats and liver tumors in female mice. The significance of these findings for human health are unclear at this time, and may be related to "species specific" effects. Elevated incidences of tumors in humans have not been reported for THF.

**Toxicology Data**

**Ingredient Name**

**Methyl Ethyl Ketone**
- Oral-Rat LD50: 2737 mg/kg
- Inhalation-Rat LC50: 23,500 mg/m3/8H

**Tetrahydrofuran**
- Oral-Rat LD50: 1650 mg/kg
- Inhalation-Rat LC50: 21,000 ppm/3H

**Cyclohexanone**
- Oral-Rat LD50: 1535 mg/kg
- Inhalation-Rat LC50: 8000 ppm/4H

**Acetone**
- Oral-Rat LD50: 5800 mg/kg
- Inhalation-Rat LC50: 50,100 mg/m3
Section 12 – Ecological Information

Ecological Data

Ingredient Name: Methyl Ethyl Ketone
Food Chain Concentration Potential: None
Waterfowl Toxicity: N/A
BOD: 214%
Aquatic Toxicity: 5640 mg/L/48 hr/bluegill/TLm/fresh water

Ingredient Name: Tetrahydrofuran
Food Chain Concentration Potential: None
Waterfowl Toxicity: N/A
BOD: N/A
Aquatic Toxicity: N/A

Ingredient Name: Cyclohexanone
Food Chain Concentration Potential: None
Waterfowl Toxicity: N/A
BOD: N/A
Aquatic Toxicity: N/A

Ingredient Name: Acetone
Food Chain Concentration Potential: None
Waterfowl Toxicity: N/A
BOD: N/A
Aquatic Toxicity: LC50/96-hour for fish > 100 mg/L

Section 13 – Disposal Considerations

Waste Classification: RCRA classified hazardous waste. Dispose of absorbed materials and liquid waste in approved, controlled incineration facility in accordance with all local, state and federal regulations.

Disposal Method: Incineration.
Section 14 – Transportation Information

DOT: UN1133, Adhesives, Class 3, PG II, ERG#127.
Quarts and less: Consumer Commodity, ORM-D

Ocean (IMDG): UN1133, Adhesives, Class 3, PG II, EMS-No: F-E, S-D
Quarts and less: Adhesives, Class 3, UN 1133, PG II, Limited Quantities or Ltd. Qty.

Air (IATA): UN1133, Adhesives, Class 3, PG II, ERG#127

WHMIS (Canada): Class B-2

Section 15 – Regulatory Information

Regulatory Data

Ingredient Name: Methyl Ethyl Ketone
SARA 313 Yes
TSCA Inventory Yes
CERCLA RQ 5,000 lb.
RCRA Code U159

Ingredient Name: Tetrahydrofuran
SARA 313 No
TSCA Inventory Yes
CERCLA RQ 1,000 lb.
RCRA Code U213

Ingredient Name: Cyclohexanone
SARA 313 No
TSCA Inventory Yes
CERCLA RQ 5,000 lb.
RCRA Code U057

Ingredient Name: Acetone
SARA 313 No
TSCA Inventory Yes
CERCLA RQ 5,000 lb.
RCRA Code U002
This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). The information herein is given in good faith, but no warranty, expressed or implied is made.

Consult RectorSeal for further information: (713) 263-8001