Safety Data Sheet

Orange Tooling Gelcoat
Date of Preparation: December 1, 2015

### Section 1 Chemical Product and Company Identification

<table>
<thead>
<tr>
<th>1.1 Product identifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product name:</strong> Orange Tooling Gelcoat</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.2 Relevant identified uses of the substance or mixture and uses advised against</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Identified uses:</strong> N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.3 Details of the supplier of the safety data sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freeman Manufacturing and Supply Company</td>
</tr>
<tr>
<td>1101 Moore Road, Avon, OH 44011</td>
</tr>
<tr>
<td>Phone (440) 934-1902</td>
</tr>
<tr>
<td>FAX (440) 934-7200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.4 Emergency telephone number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emergency telephone (800) 424-9300</strong></td>
</tr>
</tbody>
</table>

### Section 2 Hazards Identification

<table>
<thead>
<tr>
<th>2.1 Classification of the substance or mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GHS Classification in accordance with 29 CFR 1910.1200 (OSHA HCS)</strong></td>
</tr>
<tr>
<td>Flammable liquids, Category 3</td>
</tr>
<tr>
<td>Acute Toxicity, inhalation, Category 4</td>
</tr>
<tr>
<td>Acute Toxicity, oral, Category 5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2.2 GHS Label elements, including precautionary statements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Signal word</strong></td>
</tr>
<tr>
<td><strong>Warning</strong></td>
</tr>
</tbody>
</table>

**Hazard statements**
- Flammable liquid and vapor.
- Harmful if inhaled.
- May be harmful if swallowed.
- Causes skin irritation.
- Causes eye irritation.
- May cause skin allergic reactions.

**Precautionary statements**

**Prevention**
- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Keep container tightly closed when not in use.
- Keep cool.
- Ground/bond container and receiving equipment.
- Do not breathe fumes or vapors.
Section 2 Hazards Identification cont.

Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.

Response
If on skin: Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
If inhaled: Remove person to fresh air and call doctor/physician if not feeling well.
If in eyes: Rinse continuously with water for at least 15 minutes.
Remove contact lenses, if present and easy to do.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.

Storage
Store in a well-ventilated place. Keep cool.

Disposal
Dispose of contents and container to an appropriate waste site in accordance with local and national regulations.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS
None.

Section 3 Composition/Information on Ingredients

3.1 Substance

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>CAS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyester Resin</td>
<td>Proprietary</td>
</tr>
<tr>
<td>Styrene Monomer</td>
<td>100-42-5</td>
</tr>
</tbody>
</table>

Section 4 First Aid Measures

4.1 Description of first aid measures

If inhaled
Move person into fresh air, give artificial respiration or give oxygen. Call a physician immediately.
Risk of pulmonary aspiration in case of serious incident.

In case of skin contact
Wash off with soap and plenty of water.

In case of eye contact
Flush eyes thoroughly with water. If irritation persists, get medical assistance.

If swallowed
Do not induce vomiting. Rinse mouth and consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3 Indication of any immediate medical attention and special treatment needed
No data available.
Section 5 Fire Fighting Measures

5.1 Extinguishing media
   Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon
dioxide.

5.2 Special hazards arising from the substance or mixture
   Nature of decomposition products not known.

5.3 Advice for firefighters
   Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
   No data available.

Section 6 Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures
   Avoid breathing vapors, mist or gas. Remove all sources of ignition. Ventilate area.
   For personal protection see section 8.

6.2 Environmental precautions
   Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
   Contain and remove with inert absorbent material and non-sparking tools. Keep in closed suitable
   containers for disposal.

Section 7 Handling and Storage

7.1 Precautions for safe handling
   Use normal precautions when handling flammable materials. Do not breathe fumes or
   vapor. Do not allow material to contact skin. Provide appropriate exhaust ventilation.

7.2 Conditions for safe storage, including any incompatibilities
   Store at ambient temperatures in closed containers. This material can catch fire if
   overheated. Keep away from heat, sparks, and flame. Emptied containers may retain
   hazardous residue and explosive vapors. Do not mix residues of this product with any other
   petroleum wastes.

Section 8 Exposure Controls/Personal Protection

8.1 Control parameters
   Components with workplace control parameters

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>OSHA</th>
<th>ACGIH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PEL</td>
<td>STEL</td>
</tr>
<tr>
<td>Styrene Monomer</td>
<td>50 ppm</td>
<td>100 ppm</td>
</tr>
</tbody>
</table>

8.2 Exposure controls
   Appropriate engineering controls
   Provide exhaust ventilation or other engineering controls to keep the airborne concentrations
   of mists and/or vapors below the recommended exposure limits. An eye wash station and
   safety shower should be located near the workstation.
Section 8 Exposure Controls/Personal Protection cont.

8.3 Personal protective equipment
   Eye/face protection
   With product at ambient temperatures, use safety glasses equipped with side shields.

8.4 Skin protection
   Hand Protection
   With product at ambient temperatures, use disposable nitrile gloves.
   Contaminated gloves should be replaced.
   Body Protection
   Prevent skin contact when handling material.

8.5 Respiratory Protection
   The need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used.

8.6 Safety Stations
   Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

8.7 General Hygienic Practices
   Avoid breathing vapor or mist. Avoid contamination of food, beverages, or smoking materials. Wash thoroughly after handling, and before eating, drinking or smoking.
   Remove contaminated clothing promptly and clean thoroughly before reuse.

Section 9 Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Transparent liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Styrene/aromatic</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting Point</td>
<td>No data available</td>
</tr>
<tr>
<td>VOC Content</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point &amp; boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash Point (COC)</td>
<td>32°C (90°F)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper/lower flammability</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>4.5 mmHg@ 20°C</td>
</tr>
<tr>
<td>Vapor density</td>
<td>3.6</td>
</tr>
<tr>
<td>Relative density (g/cc)</td>
<td>1.2±0.1</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Negligible</td>
</tr>
<tr>
<td>Coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>None</td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>None</td>
</tr>
<tr>
<td>% Volatile</td>
<td>No data available</td>
</tr>
</tbody>
</table>
Orange Tooling Gelcoat

Section 10 Stability and Reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
May occur with an exothermic reaction.

10.4 Conditions to avoid
Heat, open flames, and improper addition of promoter and/or catalyst. Avoid direct contact of MEKP with accelerator (cobalt, calcium, potassium’s salts).

10.5 Incompatible materials
Oxidizing agents, peroxides, strong acids.

10.6 Hazardous decomposition products
Thermal oxidative decomposition can produce CO, CO₂, and organic acids.

Section 11 Toxicological Information

11.1 Information on toxicological effects

**Acute Oral toxicity**
Styrene: LD 50 4.37 g/kg (rat)

**Acute Inhalation toxicity**
May cause central nervous system depression causing headache, nausea, vomiting, drowsiness, dizziness, and muscle weakness. High concentrations can lead to convulsions, coma and death

**Acute Dermal toxicity**
Styrene: LD 50 5g/kg (rabbit)

**Skin corrosion/irritation**
May cause lesions to skin

**Serious eye damage/eye irritation**
Eye irritant

**Respiratory or skin sensitization**
May cause skin sensitization

**Germ cell mutagenicity**
No data available

**Carcinogenicity**

**IARC**
Styrene (CAS #100-42-5) is considered a class 2B suspect human carcinogen.

**ACGIH**
Styrene is not classifiable as a carcinogen.

**NTP**
Styrene is reasonably anticipated to be a human carcinogen.

**OSHA**
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen.

**Reproductive toxicity**
No data available

**Specific target organ toxicity**
- single exposure
  Central nervous system depression

- repeated exposure
  May cause damage to brain and nervous system

**Aspiration hazard**
No data available
Section 12 Ecological Information

12.1 Toxicity No data available
12.2 Persistence and degradability No data available
12.3 Bioaccumulative potential No data available
12.4 Mobility in soil No data available
12.5 Results of PBT & vPvB assessment No data available

Section 13 Disposal Considerations

13.1 Disposal
Use safety containers for disposal. Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, State, and local regulations.

Section 14 Transport Information

DOT: Shipping Name: Resin Solution, flammable
Hazard Class: 3
ID No.: UN 1866
Packing Group: III
Label: Flammable Liquid

IATA: Shipping Name: Resin Solution, flammable
Hazard Class: 3
ID No.: UN 1866
Packing Group: III
Label: Flammable Liquid

IMDG: Shipping Name: Resin Solution, flammable
Hazard Class: 3
ID No.: UN 1866
Packing Group: III
Label: Flammable Liquid

Section 15 Regulatory Information

15.1 US Federal Regulations
RCRA Hazardous Waste Number (40 CFR 261.33): Not listed
RCRA Hazardous Waste Classification (40 CFR 261): Not classified
CERCLA Hazardous Substance (40 CFR 302.4): Listed/unlisted specific per RCRA Sec. 3001
SARA 311/312 Codes: Chronic Health Hazard, Fire Hazard
SARA Toxic Chemical (40 CFR 372.65): No components were identified
TSCA Inventory Status: All ingredients listed on TSCA inventory requirements

15.2 State Regulations
California Proposition 65: None listed
Materials on the New Jersey Right to Know List: Styrene
Materials on the Pennsylvania Right to Know List: Styrene
Section 16 Other Information

16.1 Disclaimer

The following supersedes Buyer’s documents. SELLER MAKES NO REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller be liable for incidental, consequential or indirect damages for alleged negligence, breach of warranty, strict of liability arising in connection with the product(s). Buyer’s sole remedy and Seller’s sole liability for any claims shall be Buyer's purchase price. Data and results are based on controlled lab work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended.
1. Identification

1.1. Product identifier

Trade name: NOROX® MEKP-9

1.2. Recommended use of the chemical and restrictions on use

Relevant applications identified: Curing agent (polymer technology)

1.3. Details of the supplier of the safety data sheet

Company: United Initiators, Inc.
334 Phillips 311 Rd.
Helena, AR 72342-9033
USA

Telephone: 870-572-2935
Telefax: 870-572-1416
Email address: Cs-initiators.nafta@united-in.com

1.4. 24 HOUR EMERGENCY TELEPHONE NUMBERS:

CHEMTREC – US & CANADA: 800-424-9300

CHEMTREC INTERNATIONAL: +1 703-527-3887 (collect calls accepted)

Product Regulatory Information: 800-231-2702

2. Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation 29CFR 1910.1200

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids</td>
<td>Category 4</td>
<td>H227</td>
</tr>
<tr>
<td>Organic peroxides</td>
<td>Type D</td>
<td>H242</td>
</tr>
<tr>
<td>Skin corrosion</td>
<td>Category 1B</td>
<td>H314</td>
</tr>
<tr>
<td>Serious eye damage</td>
<td>Category 1</td>
<td>H318</td>
</tr>
<tr>
<td>Acute aquatic toxicity</td>
<td>Category 3</td>
<td>H402</td>
</tr>
<tr>
<td>Chronic aquatic toxicity</td>
<td>Category 3</td>
<td>H412</td>
</tr>
</tbody>
</table>

2.2. Label elements

Statutory basis: Classification according to Regulation 29CFR 1910.1200
SAFETY DATA SHEET
NOROX® MEKP-9

Material no.  Specification  Order Number
185546

Version  Revision date  Print Date  Page
1.0 / US  12/18/2014  04/13/2015  2 / 15

Signal word  Danger
Hazard statement  H227 - Combustible liquid
H242 - Heating may cause a fire.
H314 - Causes severe skin burns and eye damage.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statement:
Prevention  P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220 - Keep/Store away from clothing/ strong acids, bases, heavy metal salts and other reducing substances / combustible materials.
P234 - Keep only in original container.
P260 – Do not breathe dust or mist.
P264 - Wash skin thoroughly after handling.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection.

Precautionary statement:
Reaction  P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER/doctor.
P363 - Wash contaminated clothing before reuse.
P370 + P378 - In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.
P391 - Collect spillage.

Precautionary statement:
Storage  P403 + P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P411 - Store at temperatures not exceeding 38°C (100°F).
P420 - Store away from other materials.

Precautionary statement:
Disposal  P501 - Dispose of contents/ container to an approved waste disposal plant.

2.3. Other hazards
None known.

3. Composition/information on ingredients

- Methyl ethyl ketone peroxide  32% - 35%
  CAS-No.  1338-23-4
  Flammable liquids  Category 4
  Organic peroxides  Type D
  Acute toxicity (Oral)  Category 4
  Skin corrosion  Category 1B
  Serious eye damage  Category 1

- Dimethyl phthalate  35% - 60%
  CAS-No.  131-11-3
  Remarks  Not a hazardous substance or mixture.

- Phlegmatizer  6% - 26%
SAFETY DATA SHEET
NOROX® MEKP-9

Material no. 185546
Specification
Order Number
Version 1.0 / US
Revision date 12/18/2014
Print Date 04/13/2015
Print Date 04/13/2015
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CAS-No. Proprietary
Acute aquatic toxicity Category 2
Chronic aquatic toxicity Category 2

• Methyl ethyl ketone 0% - 2%
CAS-No. 78-93-3
Flammable liquids Category 2
Eye irritation Category 2A
Specific target organ toxicity - single exposure (Central nervous system) Category 3

• Hydrogen peroxide <= 1%
CAS-No. 7722-84-1
Oxidizing liquids Category 1
Acute toxicity (Oral) Category 4
Skin corrosion Category 1A
Serious eye damage Category 1
Specific target organ toxicity - single exposure (Respiratory system) Category 3
Chronic aquatic toxicity Category 3

Other information
This material is classified as hazardous under OSHA regulations.

4. First aid measures

4.1. Description of first aid measures
Inhalation
If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If unconscious, evaluate the need for artificial respiration. Get immediate medical attention.

Skin contact
Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Obtain medical attention immediately if symptoms occur. Wash clothing before reuse.

Eye contact
In case of contact, immediately flush eyes with plenty of water. Obtain medical attention if irritation develops.

Ingestion
If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms
None known

4.3. Indication of any immediate medical attention and special treatment needed
None known.

5. Fire-fighting measures

5.1. Extinguishing media
Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Dry Chemical combined with peroxide may reignite fire. Light water additives may be particularly effective at extinguishing peroxide fires.

Unsuitable extinguishing media: High volume water jet.

5.2. Special hazards arising from the substance or mixture
The heat of decomposition of the peroxides adds to the heat of the fire. Dry chemical fire extinguishing agent may catalyze the decomposition.

5.3. **Advice for firefighters**

If dry chemical is used to extinguish a peroxide fire, the extinguished area must be thoroughly wetted down with water to prevent reignition.

As in any fire, wear self-contained positive-pressure breathing apparatus and full protective gear.

Containers near the source of fire should be cooled with a water spray to prevent contents from reaching decomposition temperature.

6. **Accidental release measures**

6.1. **Personal precautions, protective equipment and emergency procedures**

Evacuate personnel to safe areas. Wear a self-contained breathing apparatus and appropriate personal protective equipment. (See Section 8 - Exposure Controls/Personal Protection.) Remove all sources of ignition. Ventilate the area.

6.2. **Environmental precautions**

Obey relevant local, state, provincial and federal laws and regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.

6.3. **Methods and material for containment and cleaning up**

Dike spill to prevent runoff from entering drains, sewers, streams, etc. Wet spilled material with water and absorb with an inert absorbent material such as perlite, vermiculite, or sand. Sweep up using non-sparking tools and place in a clean polyethylene drum or a polyethylene pail. DO NOT place into a steel container, lined or unlined, as decomposition may occur. Treat any contaminated cardboard packaging as hazardous waste. Wet container with additional water prior to sealing. Use absorbent/absorbent material to solidify liquids. Clean up promptly by sweeping or vacuum. Wear protective equipment, including eye protection, to avoid exposure (see Section 8 for specific handling precautions).

7. **Handling and storage**

7.1. **Precautions for safe handling**

Rotate stock using the oldest material first. Avoid contact with skin, eyes and clothing. Use PPE as specified in section 8. Keep containers closed to prevent contamination. Keep away from sources of heat, sparks, or flame. Do not add to hot solvents or monomers as a violent decomposition and/or reaction may result. When using spray equipment, never spray raw peroxide onto curing or into raw resin or flues. Keep peroxide in its original container. DO NOT USE NEAR FOOD OR DRINK. Wash thoroughly after handling. Protect from contamination. Keep tightly sealed in original packing. Risk of decomposition. Wash thoroughly after handling.

7.2. **Conditions for safe storage, including any incompatibilities**

**Storage**

The stability of peroxide formulations us directly related to the shipping and storage temperature history. Cool storage at 80° F (27°C) or below is recommended for longer shelf life and stability. Prolonged storage at elevated temperatures of 100° F (38°C) and higher will cause product degradation, gassing and potential container rupture which can result in a fire and/or explosion. Store out of direct sunlight in a well ventilated area away from combustible and incompatible material. DO NOT STORE WITH FOOD OR DRINK.

Refer to NFPA 400 Hazardous Materials Code from the National Fire Protection Association for additional storage information.

**Further information**

Store apart from other dangerous and incompatible substances. Keep away from direct sunlight.
Keep containers tightly closed in a cool, well-ventilated place.

8. Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Methyl ethyl ketone peroxide</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Ceiling Limit Value: (ACGIH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1338-23-4</td>
<td>0.2 ppm</td>
<td>0.2 ppm</td>
<td>Permissible exposure limit: (US CA OEL)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dimethyl phthalate</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Time Weighted Average (TWA): (ACGIH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>131-11-3</td>
<td>5 mg/m3</td>
<td>5 mg/m3</td>
<td>Permissible exposure limit: (OSHA Z1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Methyl ethyl ketone</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Time Weighted Average (TWA): (ACGIH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-93-3</td>
<td>200 ppm</td>
<td>200 ppm</td>
<td>Permissible exposure limit: (OSHA Z1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hydrogen peroxide</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Time Weighted Average (TWA): (ACGIH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7722-84-1</td>
<td>1 ppm</td>
<td>1 ppm</td>
<td>Permissible exposure limit: (OSHA Z1)</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Engineering measures
Local exhaust and mechanical ventilation recommended.

8.3. Personal protective equipment

Respiratory protection
A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.
Hand protection
Wear protective gloves made of the following materials:.
solvent-resistant gloves (butyl-rubber)
nitrile rubber
Neoprene gloves
Skin should be washed after contact.

Eye protection
Use chemical splash goggles or face shield.

Skin and body protection
A safety shower and eye wash fountain should be readily available.
To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR1910.132) be conducted before using this product.

Hygiene measures
Do not eat, drink or smoke during use.
Wash hands before breaks and immediately after handling the product.

Protective measures
Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

9. Physical and chemical properties
9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Water-white.</td>
</tr>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Odour</td>
<td>Slight</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point/range</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 76 °C (Seta closed cup)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>&gt; 1</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.1</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Soluble</td>
</tr>
</tbody>
</table>
9.2. Other information
peroxides  The substance or mixture is an organic peroxide classified as type D.

SADT  SADT  > 60 °C

10. Stability and reactivity

10.1. Reactivity
Stable under recommended storage conditions.

10.2. Chemical stability
Contact with incompatible substances can cause disintegration at or below SADT.

10.3. Possibility of hazardous reactions
Stability  Stable under recommended storage conditions.
Possibility of hazardous  Vapors may form explosive mixtures with air.
reactions

10.4. Conditions to avoid
Keep away from heat and sources of ignition.
Exposure to sunlight.
Prolonged storage above 100°F (38°). Storage above SADT. Storage near flammable or combustible material.

10.5. Incompatible materials
Keep away from strong acids, bases, heavy metals, salts, reducing agents and accelerators.
Contaminants (e.g. rust, dust, ash). Combustible materials., Risk of decomposition.
Dimethylaniline, cobalt napthenate and other promot ers, accelerators, reducing agents, or any hot material.

10.6. Hazardous decomposition products
Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke), Irritant, caustic, flammable,
oxious/toxic gases and vapors can develop in the case of fire and decomposition., Acrid smoke and irritating fumes.

11. Toxicological information

11.1. Information on toxicological effects
No toxicological studies are available on the mixture.
carcinogenicity assessment  NTP: No component of this product present at levels greater than or equal
to 0.1% is identified as a known or anticipated carcinogen by NTP. IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Toxicological information on components**

**Methyl ethyl ketone peroxide**
- **Acute oral toxicity**: LD50 Oral Rat (male): 1017 mg/kg
- **Skin irritation**: Causes severe skin burns and eye damage. Causes burns.
- **Eye irritation**: Causes serious eye damage. Risk of serious damage to eyes.

**Dimethyl phthalate**
- **Acute oral toxicity**: LD50 Oral Rat: 8200 mg/kg
- **Acute inhalation toxicity**: LC50: 10.4 mg/l / 6 h
  Assessment: H332: Harmful if inhaled.
- **Acute dermal toxicity**: LD50 Dermal Rat: > 12000 mg/kg
- **Skin irritation**: No skin irritation
- **Eye irritation**: No eye irritation
- **Sensitization**: Not sensitizing.

**Phlegmatizer**
- **Acute oral toxicity**: LD50 Oral Rat (female): > 2000 mg/kg
- **Acute inhalation toxicity**: LCLo Rat: > 0.12 mg/l / 6 h
- **Acute dermal toxicity**: LD50 Dermal Rat (male/female): > 2000 mg/kg
- **Skin irritation**: No skin irritation
- **Eye irritation**: No eye irritation

**Hydrogen peroxide**
- **Acute oral toxicity**: LD50 Oral Rat (male): 1026 mg/kg  
  Test substance: Hydrogen peroxide >= 50%
- **LD50 Oral Rat (female): 693.7 mg/kg**
  Test substance: Hydrogen peroxide >= 50%
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Acute inhalation toxicity Assessment: Harmful if inhaled.

Acute dermal toxicity LD50 Dermal Rat(male and female): > 2000 mg/kg

Skin irritation corrosive

Eye irritation corrosive

Sensitization Not sensitizing.

Assessment of STOT single exposure Assessment: May cause respiratory irritation.

**Methyl ethyl ketone**

Acute oral toxicity LD50 Oral Rat: 2737 mg/kg

Acute inhalation toxicity LC50 Rat: 23500 mg/l / 8 h

Acute dermal toxicity LD50 Rabbit: 6480 mg/kg

Eye irritation Irritating to eyes.

Assessment of STOT single exposure Target Organs: Central nervous system

Assessment: May cause drowsiness or dizziness.

Mutagenicity assessment This product may cause mutagenic effects.

12. **Ecological information**

12.1. **Toxicity**

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>There is no data available for this product.</td>
</tr>
<tr>
<td>Toxicity in aquatic invertebrates</td>
<td>No data is available on the product itself.</td>
</tr>
<tr>
<td>Toxicity to algae</td>
<td>No data is available on the product itself.</td>
</tr>
</tbody>
</table>

12.2. **Persistence and degradability**

| Biodegradability | no data available |

12.3. **Bioaccumulative potential**

| Bioaccumulation | no data available |

12.4. **Mobility in soil**

| Mobility | No data available |

12.5. **Other adverse effects**
Further Information  Avoid release to the environment.

13. Disposal considerations

13.1. Waste treatment methods

Product
Waste must be disposed of in accordance with federal, state and local regulations. Incineration is the preferred method of disposal. Contact United Initiators for additional information. Empty containers must be handled with care due to product residue. DO NOT HEAT OR CUT THE EMPTY CONTAINER WITH ELECTRIC OR GAS TORCH.

Uncleaned packaging
Packaging material should be recycled or disposed of in accordance with federal, state and local regulations.

14. Transport information

D.O.T. Road/Rail
14.1. UN number: UN 3105
14.2. UN proper shipping name: Organic peroxide type D, liquid(Methyl ethyl ketone peroxide <= 45%)
14.3. Transport hazard class(es): 5.2
14.4. Packing group: II
14.5. Environmental hazards (Marine pollutant):
14.6. Special precautions for user: No

Air transport ICAO-TI/IATA-DGR
14.1. UN number: UN 3105
14.2. UN proper shipping name: Organic peroxide type D, liquid(Methyl ethyl ketone peroxide <= 45%)
14.3. Transport hazard class(es): 5.2
14.4. Packing group: --
14.5. Environmental hazards: --
14.6. Special precautions for user: Yes

IATA-C: ERG-Code 5L
Must be protected from direct sunlight and stored away from all sources of heat in a well-ventilated area.

IATA-P: ERG-Code 5L
Must be protected from direct sunlight and stored away from all sources of heat in a well-ventilated area.

Sea transport IMDG-Code/GGVSee (Germany)
14.1. UN number: UN 3105
14.2. UN proper shipping name: ORGANIC PEROXIDE TYPE D, LIQUID(Methyl ethyl ketone peroxide <= 45%)
14.3. Transport hazard class(es): 5.2
14.4. Packing group: --
14.5. Environmental hazards (Marine pollutant):
14.6. Special precautions for user: Yes
EmS: F-J,S-R
*Separated from* acids and alkalis.
Protected from sources of heat.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:
for transport approval see regulatory information

15. Regulatory information

**US Federal Regulations**

**OSHA**
If listed below, chemical specific standards apply to the product or components:

- None listed

**Clean Air Act Section (112)**
If listed below, components present at or above the de minimus level are hazardous air pollutants:

- Dimethyl phthalate
  - CAS-No. 131-11-3

**CERCLA Reportable Quantities**
If listed below, a reportable quantity (RQ) applies to the product based on the percent of the named component:

- Methyl ethyl ketone peroxide
  - CAS-No. 1338-23-4
  - Reportable Quantity 29 lbs

**SARA Title III Section 311/312 Hazard Categories**
The product meets the criteria only for the listed hazard classes:

- Acute Health Hazard
- Fire Hazard

**SARA Title III Section 313 Reportable Substances**
If listed below, components are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

- None listed

**Toxic Substances Control Act (TSCA)**
If listed below, non-proprietary substances are subject to export notification under Section 12 (b) of TSCA:

- None listed
State Regulations

California Proposition 65

A warning under the California Drinking Water Act is required only if listed below:

- None listed

International Chemical Inventory Status

Unless otherwise noted, this product is in compliance with the inventory listing of the countries shown below. For information on listing for countries not shown, contact the Product Regulatory Services Department.

- Europe (EINECS/ELINCS) listed/registered
- USA (TSCA) listed/registered
- Canada (DSL) listed/registered
- Australia (AICS) listed/registered
- Japan (MITI) listed/registered
- Korea (TCCL) listed/registered
- Philippines (PICCS) not listed/registered
- China listed/registered
- New Zealand not listed/registered

An employer using HMIS/NFPA labeling must through training ensure that its employees are fully aware of the hazards of the chemicals used.

HMIS Ratings

Health : 3
Flammability : 2
Physical Hazard : 2

NFPA Ratings

Health : 3
Flammability : 2
Reactivity : 2

16. Other information

Further information

Revision date 12/18/2014

Changes since the last version are highlighted in the margin. This version replaces all previous versions.
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.
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<td>1.0 / US</td>
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<td>04/13/2015</td>
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</tr>
</tbody>
</table>

### Legend

- **ACC**: American Chemistry Council
- **ACGIH**: American Conference of Governmental Industrial Hygienists
- **ACS**: Advisory Committee on Sustainability
- **ADI**: Acceptable Daily Intake
- **ASTM**: American Society for Testing and Materials
- **ATP**: Adaptation to Technical Progress
- **BCF**: Bioconcentration factor
- **BOD**: Biochemical oxygen demand
- **C**: closed cup
- **CAO**: Cargo Aircraft Only
- **Carc**: Carcinogen
- **CAS**: Chemical Abstract Services
- **CDN**: Canada
- **CEPA**: Canadian Environmental Protection Act
- **CERCLA**: Comprehensive Environmental Response – Compensation and Liability Act
- **CFR**: Code of Federal Regulations
- **CMR**: Carcinogenic-mutagenic-toxic for reproduction
- **COD**: Chemical oxygen demand
- **DIN**: German Institute for Standardization
- **DMEL**: Derived minimum effect level
- **DNEL**: Derived no effect level
- **DOT**: Department of Transportation
- **EC50**: half maximal effective concentration
- **EPA**: Environmental Protection Agency
- **ErC50**: Reduction of Growth Rate
- **ERG**: Emergency Response Guide Book
- **FDA**: Food and Drug Administration
- **GHS**: Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
- **GLP**: Good Laboratory Practice
- **GMO**: Genetic Modified Organism
- **HCS**: Hazard Communication Standard
- **HMIS**: Hazardous Materials Identification System
- **IARC**: International Agency for Research on Cancer
- **IATA**: International Air Transport Association
- **IBC**: Intermediate Bulk Container
- **ICAO-TI**: International Civil Aviation Organization- Technical Instructions
- **ICCA**: International Council of Chemical Association
- **ID**: Identification number
- **IMDG**: International Maritime Dangerous Goods
- **IUPAC**: International Union of Pure and Applied Chemistry
- **ISO**: International Organization For Standardization
- **LC50**: 50 % Lethal Concentration
- **LD50**: 50 % Lethal Dose
- **L(E)C50**: LC50 or EC50
- **LOAEL**: Lowest observed adverse effect level
- **LOEL**: Lowest observed effect level
- **MARPOL**: International Convention for the Prevention of Pollution from Ships
- **NFPA**: National Fire Protection Association
- **NOAEL**: No observed adverse effect level
- **NOEC**: no observed effect concentration
- **NOEL**: no observed effect level
- **o. c.**: open cup
- **OECD**: Organisation for Economic Cooperation and Development
- **OEL**: Occupational Exposure Limit
- **OSHA**: Occupational Safety and Health Administration
- **PBT**: Persistent, bioaccumulative, toxic
- **PEC**: Predicted effect concentration
- **PNEC**: Predicted no effect concentration
- **RQ**: Reportable Quantity
- **SDS**: Safety Data Sheet
- **STOT**: Specific Target Organ Toxicity
- **UN**: United Nations
- **vPvB**: very persistent, very bioaccumulative
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voc volatile organic compounds
WHMIS Workplace Hazardous Materials Information System
WHO World Health Organization