Section 1 Identification

Product identifiers
Product name: MiaGel F-944

Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Polyester gelcoat

Details of the supplier of the safety data sheet
Freeman Manufacturing and Supply Company
1101 Moore Road, Avon, OH 44011
Phone (440) 934-1902
FAX (440) 934-7200

24 Hour Emergency Phone Number: (800) 424-9300

Section 2 Hazards Identification

GHS classification in accordance with 29 CFR 1910.1200 (OSHA HCS)
- Flammable Liquids, Category 3
- Skin Corrosion/Irritation, Category 2
- Serious Eye Damage/Irritation, Category 2
- Carcinogenicity, Category 2
- Reproductive Toxicity, Category 2
- Specific Target Organ Toxicity (Repeated Exposure), Category 1

Hazard pictograms:

Signal word: Danger

Hazard statements
- Flammable liquid and vapor
- Causes skin irritation
- Causes serious eye irritation
- May cause cancer
- Suspected of damaging fertility or the unborn child
- Causes damage to organs (hearing organs) through prolonged or repeated exposure.

Precautionary statements
Prevention
- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Keep container tightly closed when not in use.
- Ground/bond container and receiving equipment.
- Use explosion-proof electrical/ventilating/lighting equipment.
- Use only non-sparking tools. Take precautionary measures against static discharge.
- Do not breathe fumes or vapors. Use only in a well-ventilated area.
Safety Data Sheet
MiaGel F-944

Section 2 Hazards Identification continued

Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.
Avoid release to the environment.

Response
If on skin: Immediately remove all contaminated clothing. Rinse skin with water/shower. If skin
irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before
reuse.
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 eye irritation persists: Get medical advice/attention.
If ingested: Do not induce vomiting. Get medical advice/attention.

Storage
Store in a well-ventilated place. Keep container cool and tightly closed. Protect from sunlight.

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

Other hazards
None known
Unknown Acute Toxicity
0% of the mixture consists of ingredients of unknown toxicity.

Section 3 Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>CAS Number</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Styrene monomer</td>
<td>100-42-5</td>
<td>25-35</td>
</tr>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
<td>5-15</td>
</tr>
<tr>
<td>Methyl methacrylate</td>
<td>80-62-6</td>
<td>2-6</td>
</tr>
</tbody>
</table>

Section 4 First Aid Measures

Description of first aid measures

Inhalation: Remove source(s) of contamination and move victim to fresh air. If breathing
has stopped, give artificial respiration, then oxygen if needed. Contact physician if you feel
unwell.

Eye Contact: Flush eyes with plenty of water. If irritation persists, seek medical attention.

Skin Contact: In case of skin contact, wash thoroughly with soap and water. If irritation persists,
get medical assistance.

Ingestion: Aspiration hazard if swallowed. Can enter lungs and cause damage. Do
not induce vomiting. Never give anything by mouth to an unconscious person. Get
medical attention immediately

Most important symptoms and effects, both acute and delayed

Potential routes of exposure include: through breathing, swallowing, and/or passage
of the material through the skin. Symptoms may include: nausea, vomiting, diarrhea,
irritation (nose, throat, airways), central nervous system depression (dizziness,
drowsiness, weakness, fatigue, nausea, headache, unconsciousness) and other central
nervous system effects, loss of coordination, confusion, liver damage.
**Section 5 Fire-Fighting Measures**

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

**Unsuitable extinguishing media:** Do not use strong water jet

**Specific hazards arising from the chemical:** Burning produces heavy smoke. Fire may produce irritating and/or toxic gases. In the event of fire and/or explosion do not breathe fumes.

**Advice for firefighters:** Wear self-contained breathing apparatus and protective suit. Use water spray to cool fire-exposed surfaces and to protect personnel. Do not allow run-off from fire-fighting to enter drains or water courses.

---

**Section 6 Accidental Release Measures**

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

Avoid breathing vapors or mists. Remove all sources of ignition. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Take precautionary measures against static discharges. For personal protection see section 8.

**Environmental precautions**

Do not allow into any sewer, on the ground or into any body of water. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations.

**Methods and materials for containment and cleaning up**

Prevent further leakage or spillage if safe to do so. Dispose of waste product or used containers according to local regulations. Clean with detergents. Avoid solvent cleaners. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers. Add water to container.

---

**Section 7 Handling and Storage**

**Precautions for safe handling**

Prevent the creation of flammable or explosive concentrations of vapor in air and avoid vapor concentration higher than the occupational exposure limits. Operators should wear anti-static footwear and clothing and floors should be of the conducting type. Use personal protection recommended in Section 8. Never use pressure to empty container. Comply with the health and safety at work laws. Prevent product from entering drains. Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Do not breathe fumes or vapor. Use only in well-ventilated areas. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Do not store above 100°F (37.8°C).

**Conditions for safe storage, including incompatible materials**

Keep/store only in original container. Store in accordance with local regulations. Keep unauthorized personnel away. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Keep tightly closed in a dry and cool place. Do not mix residues of this product with any other petroleum wastes. Avoid strong bases, strong oxidizing agents, and acids
Section 8 Exposure Controls/Personal Protection

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Component</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>
<tr>
<td>Methyl methacrylate</td>
<td>50 ppm</td>
<td>None established</td>
</tr>
</tbody>
</table>

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.

Personal protective equipment

Eye/face protection
Use safety glasses equipped with side shields, or safety goggles.

Hand Protection
With product at ambient temperatures, wear any liquid-tight gloves such as butyl rubber, neoprene or PVC. Contaminated gloves should be replaced.

Body Protection
Prevent skin contact when handling material

Respiratory Protection
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.

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

Section 9 Physical and Chemical Properties

Appearance: Translucent colorless viscous liquid
Odor: Aromatic/styrene
Odor threshold: 0.14 ppm
pH: Not applicable
Melting point: -23°F (-30.6°C)
Freezing point: No data available
Initial boiling point: 293°F (145°C)
Flash point: 89.6°F (32°C)
Evaporation rate: No data available
Flammability (solid, gas): No data available
Upper/lower flammability: 6.1%/1.1% by volume
Vapor pressure: 4.5 mmHg at 20°C
Vapor density: 3.6
Specific gravity: 1.2
Solubility: Slightly
Coefficient: n-octanol/water: 0.00112
Auto-ignition temperature: 914°F (490°C)
Decomposition temperature: No data available
Viscosity: No data available
# Safety Data Sheet

## MiaGel F-944

### Section 10 Stability and Reactivity

- **Reactivity:** No data available
- **Chemical stability:** These products are stable under recommended storage conditions
- **Possibility of hazardous reactions:** Hazardous polymerization may occur with an exothermic reaction
- **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).
- **Incompatible materials:** Peroxides, strong oxidizing agents, strong acids, strong bases
- **Hazardous decomposition products:** Organic acids, carbon monoxide, carbon dioxide

### Information on toxicological effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>LD50 (Rat) 4.37g/kg (styrene)</td>
</tr>
<tr>
<td>Acute inhalation toxicity</td>
<td>LC50 (Rat) 5,000 ppm, 8 hours (styrene)</td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td>LD50 (Rabbit) 5 g/kg (styrene)</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>May cause sensitization</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>No data available</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td></td>
</tr>
<tr>
<td>IARC</td>
<td>Group 2B: Possibly carcinogenic to humans (Styrene)</td>
</tr>
<tr>
<td>NTP</td>
<td>Reasonably Anticipated to be a Human Carcinogen (Styrene).</td>
</tr>
<tr>
<td>OSHA</td>
<td>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.</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Suspected of damaging fertility or the unborn child</td>
</tr>
<tr>
<td>Specific target organ toxicity</td>
<td></td>
</tr>
<tr>
<td>- single exposure</td>
<td>Possible respiratory tract irritation</td>
</tr>
<tr>
<td>Specific target organ toxicity</td>
<td></td>
</tr>
<tr>
<td>- repeated exposure</td>
<td>A study of long term effects of workers exposed to styrene levels in the range of 25-35 ppm, 8 hour TWA, indicated a possible mild hearing loss.</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>May be fatal if swallowed or enters airways</td>
</tr>
</tbody>
</table>

### Section 12 Ecological Information

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecotoxicity</td>
<td>Toxic to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>No data available</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>No data available</td>
</tr>
<tr>
<td>Mobility in soil</td>
<td>Moderate</td>
</tr>
<tr>
<td>Results of PBT &amp; vPvB assessment</td>
<td>No data available</td>
</tr>
<tr>
<td>Other Adverse Effects</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### Section 13 Disposal Considerations

Use safety containers for disposal. Contact a licensed contractor for detailed recommendations. Follow applicable Federal, State, and local regulations.
Section 14 Transport Information

DOT:  
Shipping Name: Resin solution  
Hazard Class: COMBUSTIBLE LIQUID  
ID No.: UN 1866  
Packing Group: III

IATA:  
Shipping Name: Resin solution  
Hazard Class: 3  
ID No.: UN 1866  
Packing Group: III

IMDG:  
Shipping Name: Resin solution  
Hazard Class: 3  
ID No.: UN 1866  
Packing Group: III

Section 15 Regulatory Information

US Federal Regulations

TSCA Inventory Status: All ingredients listed on the Toxic Substance Control Act Inventory  
SARA 311/312: Acute Health Hazard, Chronic Health Hazard, Fire Hazard, Reactive Hazard  

US State Regulations

California Proposition 65: ☢️ WARNING: This product can expose you to chemicals including styrene, which is known to the State of California to cause cancer.  
For more information, go to www.P65Warnings.ca.gov.

Section 16 Other Information

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.
Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

<table>
<thead>
<tr>
<th>Product identifier</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Code</strong></td>
<td>28089.01</td>
</tr>
<tr>
<td><strong>Product Name</strong></td>
<td>MEKP Liquid Hardener</td>
</tr>
<tr>
<td><strong>Other means of identification</strong></td>
<td>No information available</td>
</tr>
</tbody>
</table>

**Recommended use of the chemical and restrictions on use**
Industrial paint (Paint or Paint-Related)

**Details of the supplier of the safety data sheet**
See section 16 for more information

The Valspar Corporation
PO Box 1461
Minneapolis, MN  55440

**E-mail address**  
msds@valspar.com

**Emergency telephone number**
United States of America  1-888-345-5732

Section 2: HAZARDS IDENTIFICATION

**Classification**

| Acute toxicity - Oral      | Category 4 |
| Skin corrosion/iritation   | Category 1  Sub-category A |
| Serious eye damage/eye irritation | Category 1 |
| Organic peroxides          | Type D |

**Label elements**
Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl ethyl ketone peroxide</td>
<td>1338-23-4</td>
<td>25 - 50</td>
</tr>
<tr>
<td>Methyl ethyl ketone</td>
<td>78-93-3</td>
<td>3 - 5</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>7722-84-1</td>
<td>3 - 5</td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret.

HAZARD STATEMENTS
Heating may cause a fire
Harmful if swallowed
Causes severe skin burns and eye damage

PREVENTION
Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dusts or mists. Wear protective gloves/protective clothing/eye protection/face protection. P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep/Store away from clothing/ combustible materials. Keep only in original container.

RESPONSE
Get medical advice/attention if you feel unwell.

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Skin
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or doctor/physician.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Ingestion
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting.

STORAGE
Store locked up. Store at temperatures not exceeding 38 °C/ 100 °F. Keep cool. Protect from sunlight. Store away from other materials.

DISPOSAL
Dispose of contents/containers in accordance with local regulations.

HAZARDS NOT OTHERWISE CLASSIFIED (HNOC)
No information available.

OTHER HAZARDS
Not applicable.

UNKNOWN ACUTE TOXICITY
0% of the mixture consists of ingredient(s) of unknown toxicity.
Section 4: FIRST AID MEASURES

First Aid Measures

General advice
Get medical advice/attention if you feel unwell.

Eye contact
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Skin Contact
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or doctor/physician.

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Ingestion
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

Symptoms
No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians
Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing media
Dry chemical, CO2, water spray or alcohol-resistant foam.

Not to be used for safety reasons: Strong water jet

Specific hazards arising from the chemical
Burning produces heavy smoke. Fire may produce irritating and/or toxic gases. In the event of fire and/or explosion do not breathe fumes.

Special protective equipment for fire-fighters
Wear self-contained breathing apparatus and protective suit. Cool containers with flooding quantities of water until well after fire is out. Do not allow run-off from fire-fighting to enter drains or water courses.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Avoid breathing vapors or mists. Remove all sources of ignition. Evacuate personnel to safe areas. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.

For emergency responders
Use personal protection recommended in Section 8.

Environmental precautions
Do not allow into any sewer, on the ground or into any body of water. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.
Methods for cleaning up
Dispose of waste product or used containers according to local regulations. Clean with detergents. Avoid solvent cleaners. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers.

Section 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Prevent the creation of flammable or explosive concentrations of vapor in air and avoid vapor concentration higher than the occupational exposure limits. Use personal protection recommended in Section 8. Never use pressure to empty container. Comply with the health and safety at work laws. Prevent product from entering drains. Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Do not breathe dust/fume/gas/mist/vapors/spray.

General Hygiene Considerations
Avoid contact with skin, eyes or clothing. When using do not eat, drink or smoke. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep/store only in original container. Store in accordance with local regulations. Keep unauthorized personnel away. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Incompatible materials

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits
If S* appears in the OEL table, it indicates this chemical contains a skin notation.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl ethyl ketone peroxide 1338-23-4</td>
<td>Ceiling: 0.2 ppm</td>
<td>TWA: 590 mg/m³</td>
<td>Ceiling: 0.2 ppm</td>
</tr>
<tr>
<td>Methyl ethyl ketone 78-93-3</td>
<td>STEL: 300 ppm</td>
<td>TWA: 200 ppm</td>
<td>Ceiling: 1.5 mg/m³</td>
</tr>
<tr>
<td>Hydrogen peroxide 7722-84-1</td>
<td>TWA: 1 ppm</td>
<td>TWA: 1.4 mg/m³</td>
<td>IDLH: 3000 ppm</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering Controls
Ensure adequate ventilation, especially in confined areas. Provide local exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Individual protection measures, such as personal protective equipment

Eye/face protection
Face protection shield. Tight sealing safety goggles.

Skin and body protection
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Hand Protection
There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on
breakthrough time for specific gloves. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed. Gloves should be replaced regularly and if there is any sign of damage to the glove material. Always ensure that gloves are free from defects and that they are stored and used correctly. The performance or effectiveness of the glove may be reduced by physical / chemical damage and poor maintenance. Wear protective gloves.

**Respiratory protection**
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**Thermal Protection**
No information available

---

### Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| Physical state | liquid |
| Appearance     | No information available |
| Odor           | Slight |
| Color          | colorless |
| Odor Threshold | No information available |
| pH value       | No information available |
| Melting point/freezing point | No information available |
| Boiling point / boiling range | No information available °C / °F |
| flash point     | 94 °C / 201 °F |
| evaporation rate | No information available |
| Flammability (solid, gas) | No information available |
| Flammability Limit in Air | 
  - Upper flammability limit: No information available
  - Lower flammability limit: No information available |
| Vapor Pressure  | No information available |
| vapor density   | No information available |
| Density (lbs per US gallon) | 8.33 |
| specific gravity | 1 |
| Solubility(ies) | partially soluble |
| Partition coefficient | No information available |
| Autoignition temperature | No information available |
| Decomposition temperature | No information available |
| Kinematic viscosity | No information available |
| Dynamic viscosity | No information available |

Other information

---

### Section 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**

**Hazardous Decomposition Products**
Carbon monoxide. Carbon dioxide (CO2).

---

### Section 11: TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

Eye contact
Causes serious eye damage
Skin Contact
Causes skin burns
Ingestion
Harmful if swallowed
Inhalation
Not applicable

Numerical measures of toxicity - Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl ethyl ketone peroxide</td>
<td>= 407 mg/kg (Rat)</td>
<td>= 470 mg/kg (Rat)</td>
<td>= 200 ppm (Rat) 4 h</td>
</tr>
<tr>
<td>1338-23-4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methyl ethyl ketone</td>
<td>= 2483 mg/kg (Rat)</td>
<td>= 2737 mg/kg (Rat)</td>
<td>= 11700 ppm (Rat) 4 h</td>
</tr>
<tr>
<td>78-93-3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>= 1518 mg/kg (Rat)</td>
<td>= 4060 mg/kg (Rat)</td>
<td>= 2 g/m³ (Rat) 4 h</td>
</tr>
<tr>
<td>7722-84-1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Numerical measures of toxicity - Product Information

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

ATEmix (oral) 1429 Mg/kg
ATEmix (inhalation-dust/mist) 30 mg/l
ATEmix (inhalation-vapor) 220 mg/l

UNKNOWN ACUTE TOXICITY 0% of the mixture consists of ingredient(s) of unknown toxicity.

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>A3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7722-84-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen.

Skin corrosion/irritation Causes skin burns
Serious eye damage/eye irritation Causes serious eye damage
Skin sensitization Not applicable
Respiratory sensitization Not applicable
Germ cell mutagenicity Not applicable
Carcinogenicity Not applicable
Reproductive Toxicity Not applicable
Specific target organ toxicity (single exposure) Not applicable
Specific target organ toxicity (repeated exposure) Not applicable
Aspiration hazard Not applicable

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity
Environmental precautions Prevent product from entering drains.

Persistence and degradability
No information available

Bioaccumulation
No information available

Mobility
No information available

Other adverse effects No information available

Section 13: DISPOSAL CONSIDERATIONS

Product Code 28089.01
Waste treatment methods

Disposal of wastes
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging
Do not reuse container.

Section 14: TRANSPORT INFORMATION

14.1 UN/ID no
DOT
UN3105
IMDG
UN3105
IATA
UN3105

14.2 Proper shipping name
Organic peroxide type D, liquid
Methyl ethyl ketone peroxide < 45%

14.3 Hazard Class
5.2

14.4 Packing Group
A20, A150, A802

14.5 Environmental hazard

14.6 Special Provisions
Emergency Response Guide Number
122, 274
F-J, S-R

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
No information available

The supplier may apply one of the following exceptions: Combustible Liquid (49 CFR 173.150(f)); Consumer Commodity (49 CFR 173.150(c), ICAO/IATA SP A112); Limited Quantity (49 CFR 173.150(b), ICAO Part 3 Chapter 4, IATA 2.7, IMDG Chapter 3.4); Viscous Liquid (49 CFR 173.121(b), IMDG 2.3.2.2, IATA 3.3.3.1, ICAO 3.2.2, ADR 2.2.3.1.5); Does Not Sustain Combustion (49 CFR 173.120(a), IATA 3.3.1.3, ICAO 3.1.3, IMDG 2.3.1.3, ADR 2.2.3.1.1 Note 1); or others as allowed under hazardous materials/dangerous goods regulations.

Section 15: REGULATORY INFORMATION

International Inventories
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
All components are listed or exempt from listing.

DSL - Canadian Domestic Substances List
All components are listed or exempt from listing

US Federal Regulations

SARA 311/312 Hazard Categories

Acute health hazard
Yes

Chronic Health Hazard
No

Fire hazard
No

Sudden release of pressure hazard
No

Reactive Hazard
Yes

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA/SARA RQ</th>
<th>Reportable Quantity (RQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl ethyl ketone peroxide</td>
<td>10 lb</td>
<td></td>
<td>RQ 10 lb final RQ</td>
</tr>
<tr>
<td>1338-23-4</td>
<td></td>
<td></td>
<td>RQ 4.54 kg final RQ</td>
</tr>
<tr>
<td>Methyl ethyl ketone</td>
<td>5000 lb</td>
<td></td>
<td>RQ 5000 lb final RQ</td>
</tr>
<tr>
<td>78-93-3</td>
<td></td>
<td></td>
<td>RQ 2270 kg final RQ</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>1000 lb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7722-84-1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

US State Regulations

Rule 66 status of product
Not photochemically reactive.

U.S. EPA Label information

EPA Pesticide registration number
Not applicable

Product Code 28089.01
### U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Proprietary Non-Hazardous Ingredient - Proprietary CAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl ethyl ketone peroxide</td>
<td>1338-23-4</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>7722-84-1</td>
</tr>
<tr>
<td>Methyl ethyl ketone</td>
<td>78-93-3</td>
</tr>
</tbody>
</table>

### Section 16: OTHER INFORMATION

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>X</td>
</tr>
</tbody>
</table>

**Supplier Address**

Valspar Coatings  
701 Shiloh Rd.  
Garland, TX 75042  
972-276-5181

**Prepared By**

Product Stewardship

**Revision date**

10-Apr-2018

**Revision Note**

No information available

**Disclaimer**

The information on this Safety Data Sheet (SDS) is based on the present state of our knowledge, current national legislation and guidelines. As the specific conditions of use of the product are outside the supplier’s knowledge and control the user is responsible for ensuring that the requirements of relevant legislation are complied with. This SDS should not be construed as any guarantee of the technical performance or suitability for particular applications. UNLESS SUPPLIER AGREES OTHERWISE IN WRITING, SUPPLIER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. SUPPLIER WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

End of Safety Data Sheet
SECTION 1. IDENTIFICATION

Product name : NOROX MEKP-9

Manufacturer or supplier's details
Company name of supplier : United Initiators, Inc.
Address : 555 Garden Street
           Elyria OH 44035
Telephone : +1-440-323-3112
Telefax : +1-440-323-2659
Emergency telephone : CHEMTREC US (24h): +1-800-424-9300
                    CHEMTREC WORLD (24h): +1-703-527-3887
E-mail address of person responsible for the SDS : cs-initiators.nafta@united-in.com

Recommended use of the chemical and restrictions on use
Recommended use : Hardener

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200
Flammable liquids : Category 4
Organic peroxides : Type D
Acute toxicity (Oral) : Category 4
Acute toxicity (Inhalation) : Category 4
Skin corrosion : Category 1B
Serious eye damage : Category 1
Reproductive toxicity : Category 2
Acute aquatic toxicity : Category 2

GHS label elements
Hazard pictograms : ![Flammability]( flame), ![Toxicity]( toxic), ![Health]( health), ![Environmental]( en)
Signal Word : Danger
Hazard Statements:
H227 Combustible liquid.
H242 Heating may cause a fire.
H302 + H332 Harmful if swallowed or if inhaled.
H314 Causes severe skin burns and eye damage.
H361d Suspected of damaging the unborn child.
H401 Toxic to aquatic life.

Precautionary Statements:

Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. 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.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
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 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
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.

Storage:
P405 Store locked up.
P410 Protect from sunlight.
P411 + P235 Store at temperatures not exceeding < 100 °F/ < 38 °C. Keep cool.
P420 Store away from other materials.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.
Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture
Chemical nature : Organic Peroxide
                  Liquid mixture

Hazardous ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Butanone, peroxide</td>
<td>1338-23-4</td>
<td>&gt;= 30 - &lt; 35</td>
</tr>
<tr>
<td>Trimethylpentanediol isobutyrate</td>
<td>6846-50-0</td>
<td>&gt;= 20 - &lt; 25</td>
</tr>
<tr>
<td>Butanone</td>
<td>78-93-3</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>7722-84-1</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this material safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
Symptoms of poisoning may appear several hours later.
Call a physician immediately.

If inhaled : Call a physician or poison control center immediately.
If unconscious, place in recovery position and seek medical advice.
Keep respiratory tract clear.
Call a physician immediately.
If breathed in, move person into fresh air.

In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Wash contaminated clothing before re-use.
If on skin, rinse well with water.
If on clothes, remove clothes.
If symptoms persist, call a physician.

In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Do NOT induce vomiting. Call a physician immediately. Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed:
- Harmful if swallowed or if inhaled.
- Causes serious eye damage.
- Suspected of damaging the unborn child.
- Causes severe burns.

Protection of first-aiders:
- First Aid responders should pay attention to self-protection and use the recommended protective clothing.

Notes to physician:
- Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:
- Water spray
- Alcohol-resistant foam
- Carbon dioxide (CO2)
- Dry chemical

Unsuitable extinguishing media:
- High volume water jet

Specific hazards during firefighting:
- Contact with incompatible materials or exposure to temperatures exceeding SADT may result in a self-accelerating decomposition reaction with release of flammable vapors which may auto-ignite.

- The product burns violently.
- Flash back possible over considerable distance.
- Vapors may form explosive mixtures with air.
- Cool closed containers exposed to fire with water spray.

Specific extinguishing methods:
- Do not use a solid water stream as it may scatter and spread fire.
- Remove undamaged containers from fire area if it is safe to do so.
- Use water spray to cool unopened containers.

Further information:
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special protective equipment for fire-fighters:
- Wear self-contained breathing apparatus for firefighting if necessary.
- Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES
Personal precautions, protective equipment and emergency procedures:
- Use personal protective equipment.
- Remove all sources of ignition.
- Follow safe handling advice and personal protective equipment recommendations.
- Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
- Never return spills in original containers for re-use.
- Treat recovered material as described in the section "Disposal considerations".

Environmental precautions:
- Prevent product from entering drains.
- Prevent further leakage or spillage if safe to do so.
- If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up:
- Contact with incompatible substances can cause decomposition at or below SADT.
- Clear spills immediately.
- Suppress (knock down) gases/vapors/mists with a water spray jet.
- To clean the floor and all objects contaminated by this material, use plenty of water.
- Soak up with inert absorbent material.
- Isolate waste and do not reuse.
- Non-sparking tools should be used.
- Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.

SECTION 7. HANDLING AND STORAGE

Technical measures:
- See Engineering measures under EXPOSURE CONTROLS/PERSOAL PROTECTION section.

Advice on protection against fire and explosion:
- Keep away from heat and sources of ignition. Use only explosion-proof equipment. Keep away from combustible material.

Advice on safe handling:
- Do not swallow.
- Do not breathe vapors/dust.
- Avoid contact with skin and eyes.
- Avoid formation of aerosol.
- Take precautionary measures against static discharges.
- Never return any product to the container from which it was originally removed.
- Provide sufficient air exchange and/or exhaust in work rooms.
- Avoid confinement.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Smoking, eating and drinking should be prohibited in the application area.
- Wash thoroughly after handling.
For personal protection see section 8. 
Protect from contamination.

Conditions for safe storage : Avoid impurities (e.g. rust, dust, ash), risk of decomposition. 
Electrical installations / working materials must comply with the technological safety standards. 
Containers which are opened must be carefully resealed and kept upright to prevent leakage. 
Store in original container. 
Keep containers tightly closed in a cool, well-ventilated place. 
Store in accordance with the particular national regulations.

Materials to avoid : Keep away from strong acids, bases, heavy metal salts and other reducing substances.

Recommended storage temperature : < 100 °F 
< 38 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimethyl phthalate</td>
<td>131-11-3</td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>OSHA P0</td>
</tr>
<tr>
<td>2-Butanone, peroxide</td>
<td>1338-23-4</td>
<td>C</td>
<td>0.2 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>0.2 ppm</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>0.7 ppm</td>
<td>OSHA P0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 mg/m3</td>
<td></td>
</tr>
<tr>
<td>Butanone</td>
<td>78-93-3</td>
<td>TWA</td>
<td>200 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>300 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>200 ppm</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ST</td>
<td>300 ppm</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>200 ppm</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>200 ppm</td>
<td>OSHA P0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>300 ppm</td>
<td>OSHA P0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>885 mg/m3</td>
<td></td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>7722-84-1</td>
<td>TWA</td>
<td>1 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1 ppm</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1 ppm</td>
<td>OSHA Z-1</td>
</tr>
</tbody>
</table>
Hazardous components without workplace control parameters

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trimethylpentanediol isobutyrate</td>
<td>6846-50-0</td>
</tr>
</tbody>
</table>

Biological occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Biological specimen</th>
<th>Sampling time</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butanone</td>
<td>78-93-3</td>
<td>methyl ethyl ketone</td>
<td>Urine</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>2 mg/l</td>
<td>ACGIH BEI</td>
</tr>
</tbody>
</table>

Engineering measures: Minimize workplace exposure concentrations.

Personal protective equipment

Respiratory protection: In the case of dust or aerosol formation use respirator with an approved filter.

Filter type: ABEK-filter

Hand protection

Material: butyl-rubber

Break through time: >= 480 min

Glove thickness: 0.5 mm

Remarks: Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove Wash hands before breaks and at the end of workday.

Eye protection: Tightly fitting safety goggles Please wear suitable protective goggles. Also wear face protection if there is a splash hazard. Ensure that eyewash stations and safety showers are close to the workstation location.

Skin and body protection: Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.

Hygiene measures: Keep away from food and drink.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and immediately after handling the product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid
Color : colorless
Odor : very faint
pH : Not applicable
Melting point/range : No data available
Boiling point/boiling range : Decomposition: Decomposes below the boiling point.
Flash point : > 76 °C
Evaporation rate : No data available
Flammability (solid, gas) : Not applicable
Upper explosion limit : No data available
Lower explosion limit : No data available
Vapor pressure : No data available
Relative vapor density : > 1
Density : 1.1 g/cm³
Solubility(ies)
Water solubility : soluble
Partition coefficient: n-octanol/water : No data available
Self-Accelerating decomposition temperature (SADT) : 60 °C
SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction.

Viscosity
Viscosity, dynamic : No data available
Viscosity, kinematic : not determined
Oxidizing properties : The substance or mixture is not classified as oxidizing.
Organic peroxide

SECTION 10. STABILITY AND REACTIVITY

Reactivity: Stable under recommended storage conditions.

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: Vapors may form explosive mixture with air.

Conditions to avoid: Protect from contamination. Contact with incompatible substances can cause decomposition at or below SADT. Heat, flames and sparks. Avoid confinement.

Incompatible materials: Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents

Hazardous decomposition products: Irritant, caustic, flammable, noxious/toxic gases and vapours can develop in the case of fire and decomposition

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity
Harmful if swallowed or if inhaled.

Product:
Acute oral toxicity: Acute toxicity estimate: 1,431 mg/kg
Method: Calculation method

Acute inhalation toxicity: Acute toxicity estimate: 4.29 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity: Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Ingredients:

2-Butanone, peroxide:
Acute oral toxicity: Acute toxicity estimate: 500 mg/kg
Method: Expert judgment

Acute inhalation toxicity: Acute toxicity estimate: 1.5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Expert judgment
Assessment: The component/mixture is moderately toxic after short term inhalation.
Remarks: Based on data from similar materials
Acute dermal toxicity: Acute toxicity estimate: 2,500 mg/kg
Method: Expert judgment

Trimethylpentanediol isobutyrate:
Acute oral toxicity:
- LD50 (Rat): > 2,000 mg/kg
  Method: Expert judgment
  Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity:
- LCLo (Rat): > 0.12 mg/l
  Exposure time: 6 h
  Test atmosphere: dust/mist
  Method: Expert judgment
  Assessment: The substance or mixture has no acute inhalation toxicity
  Remarks: No mortality observed at this dose.

Acute dermal toxicity:
- LD50 (Guinea pig): > 2,000 mg/kg
  Method: Expert judgment
  Assessment: The substance or mixture has no acute dermal toxicity

Butanone:
Acute oral toxicity:
- LD50 (Rat): 2,193 mg/kg
  Method: OECD Test Guideline 423

Acute dermal toxicity:
- LD50 (Rabbit): > 5,000 mg/kg
  Method: OECD Test Guideline 402

Hydrogen peroxide:
Acute oral toxicity:
- LD50 (Rat, male): 1,026 mg/kg
  Method: OECD Test Guideline 401

Acute inhalation toxicity:
- LC50 (Rat): > 0.17 mg/l
  Exposure time: 4 h
  Test atmosphere: dust/mist
  Assessment: The component/mixture is moderately toxic after short term inhalation.
  Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Acute dermal toxicity:
- LD50 (Rabbit): > 6,500 mg/kg

Skin corrosion/irritation:
Causes severe burns.

Product:
Remarks: Extremely corrosive and destructive to tissue.
Ingredients:

2-Butanone, peroxide:
Species: Rabbit
Result: Causes burns.

Trimethylpentanediol isobutyrate:
Species: Guinea pig
Exposure time: 24 h
Result: No skin irritation
Remarks: Based on available data, the classification criteria are not met.

Butanone:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

Hydrogen peroxide:
Result: Corrosive after 3 minutes or less of exposure

Serious eye damage/eye irritation
Causes serious eye damage.

Product:
Remarks: May cause irreversible eye damage.

Ingredients:

2-Butanone, peroxide:
Result: Irreversible effects on the eye

Trimethylpentanediol isobutyrate:
Species: Rabbit
Result: No eye irritation

Butanone:
Species: Rabbit
Result: Eye irritation
Method: OECD Test Guideline 405

Hydrogen peroxide:
Result: Irreversible effects on the eye

Respiratory or skin sensitization

Skin sensitization
Not classified based on available information.
Respiratory sensitization
Not classified based on available information.

Ingredients:

2-Butanone, peroxide:
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitization.
Assessment: Harmful if swallowed., Harmful if inhaled.

Trimethylpentanediol isobutyrate:
Species: Guinea pig
Result: Does not cause skin sensitization.

Butanone:
Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitization.

Germ cell mutagenicity
Not classified based on available information.

Ingredients:

2-Butanone, peroxide:
Genotoxicity in vitro: Method: OECD Test Guideline 473
Result: negative
: Method: OECD Test Guideline 471
Result: negative
: Method: OECD Test Guideline 476
Result: negative

Trimethylpentanediol isobutyrate:
Genotoxicity in vitro: Method: OECD Test Guideline 476
Result: negative
: Test Type: Ames test
Result: negative
: Method: OECD Test Guideline 473
Result: negative

Butanone:
Genotoxicity in vitro: Method: OECD Test Guideline 471
Result: negative
: Method: OECD Test Guideline 476
Result: negative

: Method: OECD Test Guideline 473
Result: negative

Genotoxicity in vivo:
Species: Mouse
Application Route: Intraperitoneal
Method: OECD Test Guideline 474
Result: negative

Hydrogen peroxide:
Genotoxicity in vitro:
Test Type: Ames test
Result: negative

Genotoxicity in vivo:
Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Result: negative

Carcinogenicity
Not classified based on available information.

Ingredients:
2-Butanone, peroxide:
Remarks: This information is not available.

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

NTP
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity
Suspected of damaging the unborn child.

Ingredients:
2-Butanone, peroxide:
Effects on fertility:
Species: Rat
Application Route: oral (gavage)
General Toxicity Parent: NOAEL: 50 mg/kg body weight
Method: OECD Test Guideline 421
Result: negative

Trimethylpentanediol isobutyrate:
Effects on fetal development:
Species: Rabbit
Application Route: Oral
300 mg/kg

Reproductive toxicity - Assessment
Suspected of damaging the unborn child., Some evidence of adverse effects on development, based on animal experiments.

Butanone:
Effects on fertility: Species: Rat
Application Route: oral (drinking water)
General Toxicity Parent: NOAEL: 10,000 mg/l
General Toxicity F1: NOAEL: 10,000 mg/l
Method: OECD Test Guideline 416
Remarks: Based on data from similar materials

Species: Rat
Application Route: oral (drinking water)
General Toxicity Parent: LOAEL: 20,000 mg/l
Method: OECD Test Guideline 416
Remarks: Based on data from similar materials

Effects on fetal development: Species: Rat
Application Route: Inhalation
General Toxicity Maternal: NOAEC: ca. 1,002 mg/kg body weight
Teratogenicity: NOAEC Parent: ca. 1,002 mg/kg body weight
Method: OECD Test Guideline 414
Result: negative

STOT-single exposure
Not classified based on available information.

Ingredients:
Butanone:
Assessment: May cause drowsiness or dizziness.

Hydrogen peroxide:
Assessment: May cause respiratory irritation.

STOT-repeated exposure
Not classified based on available information.

Repeated dose toxicity

Ingredients:
2-Butanone, peroxide:
Species: Rat
NOAEL: 200 mg/kg
Application Route: oral (gavage)
Exposure time: 28 d
Method: OECD Test Guideline 407
Repeated dose toxicity - Assessment: Harmful if swallowed., Harmful if inhaled.

**Hydrogen peroxide:**
Species: Mouse
Application Route: Ingestion
Exposure time: 90 d
Symptoms: No adverse effects.

**Aspiration toxicity**
Not classified based on available information.

**Ingredients:**

Trimethylpentanediol isobutyrate:
Not classified due to data which are conclusive although insufficient for classification.

**Further information**

**Product:**
Remarks: No data available

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**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ingredients:**

2-Butanone, peroxide:

Toxicity to fish:

- LC50 (Poecilia reticulata (guppy)): 44.2 mg/l
  - Exposure time: 96 h
  - Method: OECD Test Guideline 203

- NOEC (Poecilia reticulata (guppy)): 18 mg/l
  - Exposure time: 96 h
  - Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates:

- EC50 (Daphnia magna (Water flea)): 39 mg/l
  - Exposure time: 48 h
  - Method: OECD Test Guideline 202

- NOEC (Daphnia magna (Water flea)): 26.7 mg/l
  - Method: OECD Test Guideline 202

Toxicity to algae:

- EC50 (Pseudokirchneriella subcapitata (green algae)): 5.6 mg/l
  - Exposure time: 72 h
  - Method: OECD Test Guideline 201

- NOEC (Pseudokirchneriella subcapitata (green algae)): 2.1 mg/l
Exposure time: 72 h  
Method: OECD Test Guideline 201

Toxicity to microorganisms  
EC50 (Bacteria): 48 mg/l  
Exposure time: 0.5 h  
Method: OECD Test Guideline 209

Trimethylpentanediol isobutyrate:

Toxicity to fish  
NOEC (Fish): >= 6 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates  
EC50 (Daphnia): >= 1.46 mg/l  
Exposure time: 48 h  
NOEC (Daphnia): 0.7 mg/l  
Exposure time: 21 d

Toxicity to algae  
EC50 (Chlorella pyrenoidosa): > 7.49 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)  
LOEC (Daphnia magna (Water flea)): 0.7 mg/l  
Exposure time: 21 d

Ecotoxicology Assessment

Acute aquatic toxicity  
This product has no known ecotoxicological effects.

Chronic aquatic toxicity  
Harmful to aquatic life with long lasting effects.

Butanone:

Toxicity to fish  
LC50 (Pimephales promelas (fathead minnow)): 2,993 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates  
EC50 (Daphnia magna (Water flea)): 308 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae  
EC50 (Pseudokirchneriella subcapitata (green algae)): 2,029 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 201

Toxicity to microorganisms  
NOEC (Pseudomonas putida): 1,150 mg/l  
Exposure time: 16 h  
Method: DIN 38 412 Part 8

Hydrogen peroxide:

Toxicity to fish  
LC50 (Pimephales promelas (fathead minnow)): 16.4 mg/l  
Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates: LC50 (Daphnia pulex (Water flea)): 2.4 mg/l
Exposure time: 48 h

Toxicity to algae: EC50 (Skeletonema costatum (marine diatom)): 1.38 mg/l
Exposure time: 72 h
NOEC (Skeletonema costatum (marine diatom)): 0.63 mg/l
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC (Daphnia magna (Water flea)): 0.63 mg/l
Exposure time: 21 d

Toxicity to microorganisms: EC50: Method: OECD Test Guideline 209

Persistence and degradability

Ingredients:

2-Butanone, peroxide:
Biodegradability: Result: Readily biodegradable.
Method: OECD Test Guideline 301D

Trimethylpentanediol isobutyrate:
Biodegradability: Result: rapidly biodegradable
Exposure time: 28 d
Method: OECD Test Guideline 301B

Butanone:
Biodegradability: Result: Readily biodegradable.
Method: OECD Test Guideline 301D

Hydrogen peroxide:
Biodegradability: Result: Readily biodegradable.

Bioaccumulative potential

Ingredients:

2-Butanone, peroxide:
Partition coefficient: n-octanol/water: log Pow: < 0.3 (25 °C)

Trimethylpentanediol isobutyrate:
Bioaccumulation: Species: Fish
Bioconcentration factor (BCF): 1.95
Partition coefficient: n-octanol/water: log Pow: 4.91 (25 °C)
Butanone:
Partition coefficient: n-octanol/water : log Pow: 0.3 (40 °C)

Hydrogen peroxide:
Partition coefficient: n-octanol/water : log Pow: -1.57
Remarks: Calculation

Mobility in soil
No data available

Other adverse effects

Product:
Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Dispose of wastes in an approved waste disposal facility.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
UN number : UN 3105
Proper shipping name : ORGANIC PEROXIDE TYPE D, LIQUID
(METHYL ETHYL KETONE PEROXIDE(S))
Class : 5.2
Packing group : Not assigned by regulation
Labels : 5.2
IATA-DGR
UN/ID No. : UN 3105
Proper shipping name : Organic peroxide type D, liquid
(Methyl ethyl ketone peroxide(s))
Class : 5.2
Packing group : Not assigned by regulation
Labels : Organic Peroxides, Keep Away From Heat
Packing instruction (cargo aircraft) : 570
Packing instruction (passenger aircraft) : 570

IMDG-Code
UN number : UN 3105
Proper shipping name : ORGANIC PEROXIDE TYPE D, LIQUID
(METHYL ETHYL KETONE PEROXIDE(S))
Class : 5.2
Packing group : Not assigned by regulation
Labels : Organic Peroxides
EmS Code : F-J, S-R
Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

Domestic regulation

49 CFR
UN/ID/NA number : UN 3105
Proper shipping name : Organic peroxide type D, liquid
(Methyl ethyl ketone peroxide(s), <=45%)
Class : 5.2
Packing group : Not assigned by regulation
Labels : ORGANIC PEROXIDE
ERG Code : 145
Marine pollutant : no

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Butanone, peroxide</td>
<td>1338-23-4</td>
<td>10</td>
<td>29</td>
</tr>
</tbody>
</table>

SARA 304 Extremely Hazardous Substances Reportable Quantity

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>7722-84-1</td>
<td>1000</td>
<td>*</td>
</tr>
</tbody>
</table>

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards
- Fire Hazard
- Reactivity Hazard
- Acute Health Hazard
- Chronic Health Hazard
SARA 302: The following components are subject to reporting levels established by SARA Title III, Section 302:

   Hydrogen peroxide 7722-84-1

SARA 313: The following components are subject to reporting levels established by SARA Title III, Section 313:

   dimethyl phthalate 131-11-3

Clean Air Act
This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):
   dimethyl phthalate 131-11-3
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):
   Butanone 78-93-3

Clean Water Act
This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307
   dimethyl phthalate 131-11-3

California Prop. 65: This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

The ingredients of this product are reported in the following inventories:

   DSL (CA) : All components of this product are on the Canadian DSL
   AICS (AU) : On the inventory, or in compliance with the inventory
   NZIoC (NZ) : On the inventory, or in compliance with the inventory
   ENCS (JP) : On the inventory, or in compliance with the inventory
   ISHL (JP) : On the inventory, or in compliance with the inventory
   KECI (KR) : On the inventory, or in compliance with the inventory
   PICCS (PH) : On the inventory, or in compliance with the inventory
   IECSC (CN) : On the inventory, or in compliance with the inventory
   TCSI (TW) : On the inventory, or in compliance with the inventory
   TSCA (US) : On TSCA Inventory
TSCA list
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations
AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECS - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50% of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SAR - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 10/19/2018

The information provided in this Material 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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