SAFETY DATA SHEET

CADOX L-50A RED

1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>CADOX L-50A RED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Use Description</td>
<td>Curing agent</td>
</tr>
<tr>
<td>Company</td>
<td>Akzo Nobel Functional Chemicals LLC</td>
</tr>
<tr>
<td></td>
<td>525 West Van Buren</td>
</tr>
<tr>
<td></td>
<td>Chicago IL 60607-3823</td>
</tr>
<tr>
<td></td>
<td>USA</td>
</tr>
<tr>
<td>Telephone</td>
<td>+18008287929</td>
</tr>
<tr>
<td>Fax</td>
<td>+13125447188</td>
</tr>
<tr>
<td>E-mail address</td>
<td><a href="mailto:RegulatoryAffairs@akzonobel.com">RegulatoryAffairs@akzonobel.com</a></td>
</tr>
</tbody>
</table>

2. HAZARDS IDENTIFICATION

Emergency Overview

<table>
<thead>
<tr>
<th>Appearance</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>red</td>
</tr>
<tr>
<td>Odor</td>
<td>faint</td>
</tr>
</tbody>
</table>

GHS Classification

Organic peroxides, Type D
Skin corrosion, Category 1B
Serious eye damage, Category 1
Reproductive toxicity, Category 2
Acute aquatic toxicity, Category 3
Chronic aquatic toxicity, Category 3

GHS Label element

Hazard pictograms

Signal Word: Danger

Hazard Statements

H242 Heating may cause a fire.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H361 Suspected of damaging fertility or the unborn child.
H412 Harmful to aquatic life with long lasting effects.
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 away from dirt, rust, chemicals in particular.
P234 Keep only in original container.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P281 Use personal protective equipment as required.

**Response:**
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 or doctor/physician.
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:**
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P410 Protect from sunlight.
P420 Store away from other materials.

**Disposal:**
P501 Dispose of contents/container in accordance with local regulation.

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**Potential Health Effects**

**Inhalation:** Inhalation of aerosols may cause irritation to mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

**Skin:** Symptoms may be delayed. Causes severe skin burns.

**Eyes:** Causes serious eye damage.

**Ingestion:** Causes burns. May be harmful if swallowed.

**Aggravated Medical Condition:** None known.

**Symptoms of Overexposure:** The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.
Carcinogenicity:

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 component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH: Confirmed animal carcinogen with unknown relevance to humans

Hydrogen peroxide solution 7722-84-1
3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Classification</th>
<th>Concentration [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl ethyl ketone peroxide</td>
<td>1338-23-4</td>
<td>Org. Perox. A; H240, Acute Tox. 4; H302, Skin Corr. 1B; H314, Eye Dam. 1; H318, Aquatic Acute 3; H402</td>
<td>30 - 50</td>
</tr>
<tr>
<td>Hydrogen peroxide solution</td>
<td>7722-84-1</td>
<td>Ox. Liq. 1; H271, Acute Tox. 4; H302, Acute Tox. 4; H332, Skin Corr. 1A; H314, Eye Dam. 1; H318, STOT SE 3; H335, Aquatic Acute 2; H401, Aquatic Chronic 3; H412</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Methyl ethyl ketone</td>
<td>78-93-3</td>
<td>Flam. Liq. 2; H225, Eye Irrit. 2A; H319, STOT SE 3; H336</td>
<td>1 - 5</td>
</tr>
<tr>
<td>C.I. Solvent Red 164</td>
<td>92257-31-3</td>
<td>Repr. 2; H361</td>
<td>0.1 - 1</td>
</tr>
</tbody>
</table>

30-35% Methyl ethyl ketone peroxide solution in aliphatic ester

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

General advice : Immediate medical attention is required. Move out of dangerous area. Show this material safety data sheet to the doctor in attendance.

Inhalation : If breathed in, move person into fresh air. Consult a physician after significant exposure.

Skin contact : Take off contaminated clothing and shoes immediately. Rinse immediately with plenty of water. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

Eye contact : Rinse with plenty of water. Get medical attention immediately. Continue to rinse during
transport of patient.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
Small amounts splashed into eyes can cause irreversible tissue damage and blindness.

Ingestion:
Clean mouth with water and drink afterwards plenty of water.
Never give anything by mouth to an unconscious person.
Take victim immediately to hospital.
Do not induce vomiting! May cause chemical burns in mouth and throat.

Notes to physician:
Symptoms:
The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.

Treatment:
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

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

Specific hazards during fire fighting / Specific hazards arising from the chemical:
CAUTION: reignition may occur.
Supports combustion.
Water spray may be ineffective unless used by experienced firefighters.
Heating may cause decomposition with release of toxic fumes.
Do not allow run-off from fire fighting to enter drains or water courses.

Combustion products:
Fire will produce smoke containing hazardous combustion products (see section 10).

Special protective equipment for fire-fighters:
In the event of fire, wear self-contained breathing apparatus.

Further information:
Use water spray to cool unopened containers.
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.

See also Section 9. Physical and chemical properties: Safety data

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:
Use personal protective equipment.
Ensure adequate ventilation.
Remove all sources of ignition.
Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environmental precautions:
Prevent product from entering drains.
If the product contaminates rivers and lakes or drains inform
Methods for cleaning up / Methods for containment:
Keep wetted with water.
Soak up with inert absorbent material and dispose of as hazardous waste.
Confinement must be avoided.
Never return spills in original containers for re-use.

Additional advice:
For personal protection see section 8.

7. HANDLING AND STORAGE

Handling:
Advice on safe handling:
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Open drum carefully as content may be under pressure.
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion:
Use explosion protected equipment.
Keep away from sources of ignition - No smoking.
No sparking tools should be used.
Keep away from reducing agents (e.g. amines), acids, alkalies and heavy metal compounds (e.g. accelerators, driers, metal soaps).
Do not cut or weld on or near this container even when empty.
Keep away from combustible material.

Temperature class:
It is recommended to use electrical equipment of temperature group T3. However, autoignition can never be excluded.

Storage:
Requirements for storage areas and containers:
Prevent unauthorized access.
No smoking.
Electrical installations / working materials must comply with the technological safety standards.
Keep only in original container.
Store away from other materials.

Maximum storage temperature:
30 °C (86 °F)

Other data:
No decomposition if stored and applied as directed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
<th>Form of exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl ethyl ketone peroxide</td>
<td>1338-23-4</td>
<td>C</td>
<td>0.2 ppm</td>
<td>2013-03-01</td>
<td>ACGIH</td>
<td></td>
</tr>
<tr>
<td>Further information</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eye irritation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Liver damage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Kidney damage</td>
</tr>
</tbody>
</table>
### Skin irritation

<table>
<thead>
<tr>
<th>Hydrogen peroxide</th>
<th>TWA</th>
<th>Value</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>7722-84-1</td>
<td>1 ppm</td>
<td>2013-03-01</td>
<td>ACGIH</td>
<td></td>
</tr>
</tbody>
</table>

**Further information:**
- Upper Respiratory Tract irritation
- Eye irritation
- Skin irritation
- A3: Confirmed animal carcinogen with unknown relevance to humans

<table>
<thead>
<tr>
<th>Hydrogen peroxide</th>
<th>TWA</th>
<th>Value</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 ppm</td>
<td>1997-08-04</td>
<td>OSHA Z-1</td>
<td></td>
</tr>
</tbody>
</table>

**Further information:**
- (b): The value in mg/m³ is approximate.

<table>
<thead>
<tr>
<th>Methyl ethyl ketone</th>
<th>TWA</th>
<th>Value</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-93-3</td>
<td>200 ppm</td>
<td>2013-03-01</td>
<td>ACGIH</td>
<td></td>
</tr>
</tbody>
</table>

**Further information:**
- Central Nervous System impairment
- Upper Respiratory Tract irritation
- Peripheral Nervous System impairment
- BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section)

<table>
<thead>
<tr>
<th>Methyl ethyl ketone</th>
<th>STEL</th>
<th>Value</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>300 ppm</td>
<td>2013-03-01</td>
<td>ACGIH</td>
<td></td>
</tr>
</tbody>
</table>

**Further information:**
- Central Nervous System impairment
- Upper Respiratory Tract irritation
- Peripheral Nervous System impairment
- BEI: Substances for which there is a Biological Exposure Index or Indices (see BEI® section)

<table>
<thead>
<tr>
<th>Methyl ethyl ketone</th>
<th>TWA</th>
<th>Value</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>200 ppm</td>
<td>1989-01-19</td>
<td>OSHA P0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Methyl ethyl ketone</th>
<th>STEL</th>
<th>Value</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>300 ppm</td>
<td>1989-01-19</td>
<td>OSHA P0</td>
<td></td>
</tr>
</tbody>
</table>

### Decomposition products

<table>
<thead>
<tr>
<th>Decomposition products</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
<th>Form of exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formic acid</td>
<td>64-18-6</td>
<td>TWA 5 ppm</td>
<td>2013-03-01</td>
<td>ACGIH</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Further information:**
- Upper Respiratory Tract irritation
- Eye irritation
- Skin irritation

| Formic acid            | STEL 10 ppm | 2013-03-01 | ACGIH   |

**Further information:**
- Upper Respiratory Tract irritation
- Eye irritation
- Skin irritation

| Formic acid            | TWA 5 ppm | 2013-10-08 | NIOSH REL |
|                       | TWA 5 ppm | 2011-07-01 | OSHA Z-1  |

**Further information:**
- (b): The value in mg/m³ is approximate.
### Biological occupational exposure limits

<table>
<thead>
<tr>
<th>Substance name</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Sampling time</th>
<th>Update</th>
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</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>64-19-7, 64-19-7</td>
<td>TWA 9 mg/m3</td>
<td>2013-03-01</td>
<td>ACGIH</td>
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<tr>
<td>Further information:</td>
<td>Pulmonary function, Upper Respiratory Tract irritation, Eye irritation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEL</td>
<td>10 ppm 25 mg/m3</td>
<td>2013-03-01</td>
<td>ACGIH</td>
<td></td>
</tr>
<tr>
<td>Further information:</td>
<td>Pulmonary function, Upper Respiratory Tract irritation, Eye irritation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>10 ppm 25 mg/m3</td>
<td>2013-08</td>
<td>NIOSH REL</td>
<td></td>
</tr>
<tr>
<td>Further information:</td>
<td>Can be found in concentrations of 5-8% in vinegar</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST</td>
<td>15 ppm 37 mg/m3</td>
<td>2013-08</td>
<td>NIOSH REL</td>
<td></td>
</tr>
<tr>
<td>Further information:</td>
<td>Can be found in concentrations of 5-8% in vinegar</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>10 ppm 25 mg/m3</td>
<td>1997-08-04</td>
<td>OSHA Z-1</td>
<td></td>
</tr>
<tr>
<td>Further information:</td>
<td>(b): The value in mg/m3 is approximate.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>10 ppm 25 mg/m3</td>
<td>1989-01-19</td>
<td>OSHA P0</td>
<td></td>
</tr>
<tr>
<td>Propionic acid</td>
<td>79-09-4, 79-09-4</td>
<td>TWA 10 ppm 25 mg/m3</td>
<td>2013-03-01</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Further information:</td>
<td>Upper Respiratory Tract irritation, Eye irritation, Skin irritation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>10 ppm 30 mg/m3</td>
<td>2013-08</td>
<td>NIOSH REL</td>
<td></td>
</tr>
<tr>
<td>STEL</td>
<td>15 ppm 45 mg/m3</td>
<td>2013-08</td>
<td>NIOSH REL</td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>10 ppm 30 mg/m3</td>
<td>1989-01-19</td>
<td>OSHA P0</td>
<td></td>
</tr>
<tr>
<td>Methyl ethyl ketone</td>
<td>78-93-3, 78-93-3</td>
<td>TWA 200 ppm</td>
<td>2013-03-01</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Further information:</td>
<td>Central Nervous System impairment, Upper Respiratory Tract irritation, Peripheral Nervous System impairment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEL</td>
<td>300 ppm</td>
<td>2013-03-01</td>
<td>ACGIH</td>
<td></td>
</tr>
<tr>
<td>Further information:</td>
<td>Central Nervous System impairment, Upper Respiratory Tract irritation, Peripheral Nervous System impairment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>200 ppm 590 mg/m3</td>
<td>2013-08</td>
<td>NIOSH REL</td>
<td></td>
</tr>
<tr>
<td>ST</td>
<td>300 ppm 885 mg/m3</td>
<td>2013-08</td>
<td>NIOSH REL</td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>200 ppm 590 mg/m3</td>
<td>1997-08-04</td>
<td>OSHA Z-1</td>
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<tr>
<td>Further information:</td>
<td>(b): The value in mg/m3 is approximate.</td>
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<tr>
<td>TWA</td>
<td>200 ppm 590 mg/m3</td>
<td>1989-01-19</td>
<td>OSHA P0</td>
<td></td>
</tr>
<tr>
<td>STEL</td>
<td>300 ppm 885 mg/m3</td>
<td>1989-01-19</td>
<td>OSHA P0</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**

a No time limit
b Immediately after exposition or after working hours

c In case of long-term exposition: after more than one shift

d Before the next shift

Engineering measures
Explosion proof ventilation recommended.
Effective exhaust ventilation system
Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment
Eye/face protection : Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Hand protection : Glove material: butyl-rubber
: Glove material: Neoprene

Skin and body protection : Protective suit

Respiratory protection : In the case of vapor or aerosol formation use a respirator with an approved filter.
Filter A

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

Environmental exposure controls
General advice : Prevent product from entering drains.
If the product contaminates rivers and lakes or drains inform respective authorities.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form : liquid

Color : red

Odor : faint

Odor Threshold : No data available

Safety data
pH : Weakly acidic

Melting point : No data available

Boiling point/boiling range : Decomposes below the boiling point.

Flash point : Not applicable

Evaporation rate : No data available
10. STABILITY AND REACTIVITY

Conditions to avoid: Confinement must be avoided. Heat, flames and sparks.

For safety, store below:
30 °C (86 °F)
Materials to avoid: Contact with incompatible materials will result in hazardous decomposition. For queries regarding the suitability of other materials please contact the supplier. Do not mix with peroxide accelerators, unless under controlled processing. Use only stainless steel 316, PP, polyethylene or glass-lined equipment. Acids and bases: Iron, Copper, Reducing agents, Heavy metals, Rust.

Hazardous decomposition products: Carbon oxides, Formic acid, Acetic acid, Propionic acid, Methyl ethyl ketone.

Thermal decomposition: SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT.

Reactivity: Stable under normal conditions.

Chemical stability: Stable under recommended storage conditions.

Hazardous reactions: No dangerous reaction known under conditions of normal use.

Self-Accelerating decomposition temperature (SADT): 60 °C (140 °F)

11. TOXICOLOGICAL INFORMATION

PRODUCT INFORMATION:

Toxicology Assessment
Further information: Suspected of damaging fertility or the unborn child.

Test result
Acute oral toxicity: Acute toxicity estimate: 2,817 mg/kg
Method: Calculation method

Acute inhalation toxicity: Acute toxicity estimate: > 40 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: Calculation method
Acute dermal toxicity: Acute toxicity estimate: > 5,000 mg/kg  
Method: Calculation method

Carcinogenicity:
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 component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH: Confirmed animal carcinogen with unknown relevance to humans

Hydrogen peroxide solution 7722-84-1

TOXICOLOGY DATA FOR THE INGREDIENTS:

Test result

Component: C.I. Solvent Red 164
CMR effects: Reproductive toxicity: Suspected human reproductive toxicant

Component: Methyl ethyl ketone peroxide
Acute oral toxicity: LD50: 1,017 mg/kg  
Species: Rat
Acute inhalation toxicity: LC50 (Rat): 17 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist
Skin irritation: Result: Causes burns.
Eye irritation: Result: Risk of serious damage to eyes.
Germ cell mutagenicity
Genotoxicity in vitro: Ames test  
Result: negative
Reproductive toxicity/Fertility: Species: Rat, male and female  
Application Route: Oral  
Dose: 0, 25, 50, 75 milligram per kilogram  
General Toxicity Parent: NOAEL (No observed adverse effect level): 50 mg/kg body weight/day  
General Toxicity F1: No observed adverse effect level F1: 50
mg/kg body weight/day
Fertility: No observed adverse effect level Parent: 75 mg/kg body weight/day
Method: OECD Test Guideline 421
GLP: yes

Target Organ Systemic Toxicant - Repeated exposure: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration toxicity: No aspiration toxicity classification

**Component: Hydrogen peroxide solution**

Acute oral toxicity: LD50: 602 mg/kg
Species: Rat
Method: OECD Test Guideline 401
Literature data.

Acute inhalation toxicity: LC50: 20 mg/l
Exposure time: 4 h
Method: Expert judgment
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

Skin irritation: Result: Causes severe burns.

Germ cell mutagenicity Genotoxicity in vivo: Species: Mouse
Method: Mutagenicity (micronucleus test)
Result: negative
Literature data.

**Component: Methyl ethyl ketone**

Acute oral toxicity: LD50: 2,737 mg/kg
Species: Rat

Skin irritation: Result: Repeated exposure may cause skin dryness or cracking.
Moderately irritating.

Eye irritation: Result: Irritating to eyes.

Target Organ Systemic Toxicant - Single exposure: Routes of exposure: Inhalation
The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

Aspiration toxicity: No aspiration toxicity classification

**Component: C.I. Solvent Red 164**

Aspiration toxicity: No aspiration toxicity classification
12. ECOLOGICAL INFORMATION

PRODUCT INFORMATION:

Ecotoxicology Assessment
Additional ecological information:
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.

Further information on ecology

Hazardous to the ozone layer
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).

INGREDIENTS:

Ecotoxicology Assessment

Component: Methyl ethyl ketone peroxide
Acute aquatic toxicity:
Harmful to aquatic life.

Component: Hydrogen peroxide solution
Chronic aquatic toxicity:
Harmful to aquatic life with long lasting effects.

Test result

Component: Methyl ethyl ketone peroxide

Ecotoxicity effects
Toxicity to fish:
LC50: 44.2 mg/l
Exposure time: 96 h
Species: Poecilia reticulata (guppy)
Test Type: semi-static test

Toxicity to daphnia and other aquatic invertebrates:
39 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
Test Type: Immobilization

Toxicity to algae:
LC50: 5.6 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (algae)
Test Type: Growth inhibition

Toxicity to bacteria:
EC10: 12 mg/l
Exposure time: 0.5 h
Species: activated sludge
Test Type: Respiration inhibition
Elimination information (persistence and degradability)
Biodegradability
Result: Readily biodegradable.
Method: Closed Bottle test

Component: Hydrogen peroxide solution

Ecotoxicity effects
Toxicity to fish
LC50: 16.4 mg/l
Exposure time: 96 h
Species: Pimephales promelas (fathead minnow)
Test Type: semi-static test
Literature data.

Toxicity to daphnia and other aquatic invertebrates
LC50: 2.4 mg/l
Exposure time: 48 h
Species: Daphnia pulex (Water flea)
Test Type: semi-static test
Literature data.

Toxicity to algae
ErC50: 1.38 mg/l
Exposure time: 72 h
Species: Skeletonema costatum
Test Type: static test
Literature data.

Elimination information (persistence and degradability)
Bioaccumulation
Bioaccumulation is unlikely.

Mobility
Can be leached out from soil.

Distribution among environmental compartments
Transport to air is not expected.

Further information on ecology
Biochemical Oxygen Demand (BOD)
No data available

Component: Methyl ethyl ketone

Ecotoxicity effects
Toxicity to fish
LC50: 3,220 mg/l
Exposure time: 96 h
Species: Lepomis macrochirus (Bluegill sunfish)

Elimination information (persistence and degradability)
Biodegradability
Result: Readily biodegradable.
13. DISPOSAL CONSIDERATIONS

Product: 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. Hazardous waste Dispose of contents/container in accordance with local regulation.

Contaminated packaging: Empty remaining contents. Dispose of as unused product. Do not burn, or use a cutting torch on, the empty drum. Due to the high risk of contamination recycling/recovery is not recommended. Follow all warnings even after the container is emptied.

14. TRANSPORT INFORMATION

International Regulation

IATA-DGR
- UN/ID No.: UN 3105
- Proper shipping name: Organic peroxide type D, liquid (Methyl ethyl ketone peroxide)
- Class: 5.2
- Subsidiary risk: HEAT
- Packing group: Not Assigned
- Labels: 5.2 (HEAT)
- Packing instruction (cargo aircraft): 570
- Packing instruction (passenger aircraft): 570
- Environmentally hazardous: no

IMDG-Code
- UN number: UN 3105
- Proper shipping name: ORGANIC PEROXIDE TYPE D, LIQUID (Methyl ethyl ketone peroxide)
- Class: 5.2
- Packing group: Not Assigned
- Labels: 5.2
- 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, <=45%)
- Class: 5.2
- Packing group: II
- Labels: 5.2
- ERG Code: 145
- Marine pollutant: no
Reportable Quantity: This product contains the following substance(s) which are environmentally hazardous per 49 CFR 172.101, Appendix A:
(Methyl ethyl ketone peroxide)

15. REGULATORY INFORMATION

Notification status

CH INV: YES. On the inventory, or in compliance with the inventory
TSCA: YES. All chemical substances in this product are either listed on the TSCA Inventory or in compliance with a TSCA Inventory exemption.
DSL: YES. All components of this product are on the Canadian DSL.
AICS: NO. Not in compliance with the inventory
NZIoC: NO. On the inventory, or in compliance with the inventory
ENCS: NO. Not in compliance with the inventory
ISHL: NO. Not in compliance with the inventory
KECI: YES. On the inventory, or in compliance with the inventory
PICCS: YES. On the inventory, or in compliance with the inventory
IECSC: YES. On the inventory, or in compliance with the inventory

For explanation of abbreviations, see section 16.

TSCA list: Not relevant
OSHA Hazards: Organic Peroxide, Harmful by ingestion., Corrosive to skin, Corrosive to eyes, Corrosive to respiratory system., Reproductive hazard

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>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl ethyl ketone peroxide</td>
<td>1338-23-4</td>
<td>10 lbs</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>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide solution</td>
<td>7722-84-1</td>
<td>1000 lbs</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazards: 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 solution 7722-84-1

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).
This product does not contain any chemicals subject to disclosure and 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):

- Methyl ethyl ketone

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 does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

- Methyl ethyl ketone peroxide: 1338-23-4 30 - 50 %
- Hydrogen peroxide solution: 7722-84-1 1 - 5 %
- Methyl ethyl ketone: 78-93-3 1 - 5 %

Pennsylvania Right To Know

- 2,2,4-Trimethyl-1,3-pentanediol diisobutanoate: 6846-50-0 50 - 70 %
- Methyl ethyl ketone peroxide: 1338-23-4 30 - 50 %
- Hydrogen peroxide solution: 7722-84-1 1 - 5 %
- Methyl ethyl ketone: 78-93-3 1 - 5 %

New Jersey Right To Know

- 2,2,4-Trimethyl-1,3-pentanediol diisobutanoate: 6846-50-0 50 - 70 %
- Methyl ethyl ketone peroxide: 1338-23-4 30 - 50 %
- Water: 7732-18-5 1 - 5 %
- Hydrogen peroxide solution: 7722-84-1 1 - 5 %
- Methyl ethyl ketone: 78-93-3 1 - 5 %

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.

16. OTHER INFORMATION

Full text of H-Statements

- H225: Highly flammable liquid and vapor.
- H240: Heating may cause an explosion.
- H271: May cause fire or explosion; strong oxidizer.
- H302: Harmful if swallowed.
- H314: Causes severe skin burns and eye damage.
- H318: Causes serious eye damage.
- H319: Causes serious eye irritation.
- H332: Harmful if inhaled.
- H335: May cause respiratory irritation.
- H336: May cause drowsiness or dizziness.
- H361: Suspected of damaging fertility or the unborn child.
- H401: Toxic to aquatic life.
- H402: Harmful to aquatic life.
- H412: Harmful to aquatic life with long lasting effects.

Further information

- HMIS Classification: Health Hazard: 3
  Chronic Health Hazard: *

18 / 19
Flammability: 2  
Reactivity: 2  

**NFPA Classification**  
Health Hazard: 3  
Fire Hazard: 2  
Reactivity Hazard: 2  

**Notification status explanation**  
- REACH 1907/2006 (EU)  
- CH INV Switzerland. New notified substances and declared preparations  
- TSCA United States TSCA Inventory  
- DSL Canadian Domestic Substances List (DSL)  
- AICS Australia Inventory of Chemical Substances (AICS)  
- NZIoC New Zealand. Inventory of Chemical Substances  
- ENCS Japan. ENCS - Existing and New Chemical Substances Inventory  
- ISHL Japan. ISHL - Inventory of Chemical Substances  
- KECI Korea. Korean Existing Chemicals Inventory (KECI)  
- PICCS Philippines Inventory of Chemicals and Chemical Substances (PICCS)  
- IECSC China. Inventory of Existing Chemical Substances in China (IECSC)  

**Further information**  
Revision Date 04/29/2015  

The information in this material safety data sheet should be provided to all who will use, handle, store, transport or otherwise be exposed to this product. The user must determine the appropriate measures that need to be implemented for the use and handling of this product in the context of the user's operations and use of this product. The information contained herein supersedes all previously issued bulletins on the subject matter covered. If the date on this document is more than three years old, call to make certain that this sheet is current. No warranty is made as to the product's merchantability or fitness for any particular purpose, or that any suggested use will not infringe any patent. User must determine for himself, by preliminary tests or otherwise, the suitability of this product for his purposes, including mixing with other products. Nothing contained herein shall be construed as granting or extending any license under any patent.

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.