SECTION 1. IDENTIFICATION

Product name : METALURE A-31017 AE
Product code : 053012IA0

Manufacturer or supplier's details
Company name of supplier : ECKART GmbH
Address : Guentersthal 4
           Hartenstein  91235
Telephone : +499152770
Telefax : +499152777008
Emergency telephone : CHEMTREC: 800-424-9300
                      CHEMTREC: 1-703-527-3387 (International)
GBK Gefahrgut Buero GmbH, Ingelheim, Germany:
From outside US: (001) 352-323-3500
(First call in English, response in your language is possible)
US & Canada (toll free):1-800-5355-053

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200
Flammable liquids : Category 2
Eye irritation : Category 2A
Specific target organ systemic toxicity - single exposure : Category 3 (Central nervous system)

GHS label elements
Hazard pictograms : ☢️ ⚠️
Signal Word : Danger
Hazard Statements

H225 Highly flammable liquid and vapor.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary Statements

Prevention:
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/eye protection/face protection.

Response:
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:
P501 Dispose of contents/container to an approved
Hazardous ingredients which must be listed on the label:

- Acetic acid ethyl ester
- 2-Propanone

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid ethyl ester</td>
<td>141-78-6</td>
<td>&gt;= 70 - &lt; 90</td>
</tr>
<tr>
<td>Aluminum</td>
<td>7429-90-5</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td>2-Propanone</td>
<td>67-64-1</td>
<td>&gt;= 1 - &lt; 5</td>
</tr>
</tbody>
</table>

**SECTION 4. FIRST AID MEASURES**

**General advice**

Take the victim into fresh air.
Do not leave the victim unattended.
Move out of dangerous area.
Show this material safety data sheet to the doctor in attendance.

**If inhaled**

Consult a physician after significant exposure.
If unconscious, place in recovery position and seek medical advice.

**In case of skin contact**

Wash off immediately with soap and plenty of water.
If on skin, rinse well with water.
If on clothes, remove clothes.

**In case of eye contact**

Immediately flush eye(s) with plenty of water.
Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

**If swallowed**

Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed: Causes serious eye irritation. May cause drowsiness or dizziness.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Dry sand
ABC powder
Foam

Unsuitable extinguishing media: High volume water jet

Specific hazards during fire fighting: Do not allow run-off from fire fighting to enter drains or water courses.

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. For safety reasons in case of fire, cans should be stored separately in closed containments.

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

SECTION 6. ACCIDENTAL RELEASE MEASURES

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

Environmental precautions: Prevent 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: Use mechanical handling equipment.
containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Do not flush with water.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion

Do not spray on a naked flame or any incandescent material.
Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).
Use only explosion-proof equipment.
Keep away from open flames, hot surfaces and sources of ignition.

Advice on safe handling

Avoid formation of aerosol.
Do not breathe vapors/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Take precautionary measures against static discharges.
Provide sufficient air exchange and/or exhaust in work rooms.
Open drum carefully as content may be under pressure.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage

Earthing of containers and apparatuses is essential.
Reaction with water liberates extremely flammable gas (hydrogen)
Take measures to prevent the build up of electrostatic charge.
Use explosion-proof equipment.
Store in original container.
Keep containers tightly closed in a cool, well-ventilated place.
Keep away from sources of ignition - No smoking.
Keep container closed when not in use.

No smoking.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Technical measures/Precautions:
- Protect from humidity and water.

Materials to avoid:
- Do not store near acids.
- Do not store together with oxidizing and self-igniting products.
- Never allow product to get in contact with water during storage.
- Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Further information on storage stability:
- No decomposition if stored and applied as directed.

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>Acetic acid ethyl ester</td>
<td>141-78-6</td>
<td>TWA</td>
<td>400 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>400 ppm / 1,400 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>400 ppm / 1,400 mg/m³</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>400 ppm / 1,400 mg/m³</td>
<td>OSHA P0</td>
</tr>
<tr>
<td>Aluminum</td>
<td>7429-90-5</td>
<td>TWA (total dust)</td>
<td>50 Million particles per cubic foot</td>
<td>OSHA Z-3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable)</td>
<td>5 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (total dust)</td>
<td>15 mg/m³</td>
<td>OSHA Z-3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (total)</td>
<td>10 mg/m3</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (respirable fraction)</td>
<td>5 mg/m³</td>
<td>OSHA Z-3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>15 Million</td>
<td>OSHA Z-3</td>
</tr>
<tr>
<td>Substance</td>
<td>(respirable fraction)</td>
<td>particles per cubic foot</td>
<td>Source</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-----------------------</td>
<td>--------------------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td>TWA (Respirable fraction)</td>
<td>1 mg/m³</td>
<td></td>
<td>ACGIH</td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>5 mg/m³ (Aluminum)</td>
<td></td>
<td>NIOSH REL</td>
<td></td>
</tr>
<tr>
<td>TWA (Total)</td>
<td>15 mg/m³ (Aluminum)</td>
<td></td>
<td>OSHA P0</td>
<td></td>
</tr>
<tr>
<td>TWA (Respirable fraction)</td>
<td>5 mg/m³ (Aluminum)</td>
<td></td>
<td>OSHA P0</td>
<td></td>
</tr>
<tr>
<td>TWA (total dust)</td>
<td>15 mg/m³ (Aluminum)</td>
<td></td>
<td>OSHA Z-1</td>
<td></td>
</tr>
<tr>
<td>TWA (respirable fraction)</td>
<td>5 mg/m³ (Aluminum)</td>
<td></td>
<td>OSHA Z-1</td>
<td></td>
</tr>
<tr>
<td>TWA (Total dust)</td>
<td>15 mg/m³ (Aluminum)</td>
<td></td>
<td>OSHA P0</td>
<td></td>
</tr>
<tr>
<td>TWA (respirable dust fraction)</td>
<td>5 mg/m³ (Aluminum)</td>
<td></td>
<td>OSHA P0</td>
<td></td>
</tr>
<tr>
<td>TWA (welding fumes)</td>
<td>5 mg/m³ (Aluminum)</td>
<td></td>
<td>NIOSH REL</td>
<td></td>
</tr>
<tr>
<td>TWA (pyro powders)</td>
<td>5 mg/m³ (Aluminum)</td>
<td></td>
<td>NIOSH REL</td>
<td></td>
</tr>
<tr>
<td>TWA (Respirable fraction)</td>
<td>1 mg/m³ (Aluminum)</td>
<td></td>
<td>ACGIH</td>
<td></td>
</tr>
<tr>
<td>TWA (Fumes)</td>
<td>5 mg/m³</td>
<td></td>
<td>OSHA P0</td>
<td></td>
</tr>
<tr>
<td>2-Propanone</td>
<td>67-64-1</td>
<td>TWA 250 ppm</td>
<td>ACGIH</td>
<td></td>
</tr>
<tr>
<td>STEL</td>
<td>500 ppm</td>
<td></td>
<td>ACGIH</td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>250 ppm 590 mg/m³</td>
<td></td>
<td>NIOSH REL</td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>1,000 ppm 2,400 mg/m³</td>
<td></td>
<td>OSHA Z-1</td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>750 ppm 1,800 mg/m³</td>
<td></td>
<td>OSHA P0</td>
<td></td>
</tr>
<tr>
<td>STEL</td>
<td>1,000 ppm 2,400 mg/m³</td>
<td></td>
<td>OSHA P0</td>
<td></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>2-Propanone</td>
<td>67-64-1</td>
<td>Acetone</td>
<td>Urine</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>25 mg/l</td>
<td>ACGIH BEI</td>
</tr>
</tbody>
</table>

### Personal protective equipment

**Respiratory protection**: Use suitable breathing protection if workplace concentration requires.

In the case of vapor formation use a respirator with an approved filter.

**Hand protection**

- **Material**: Solvent-resistant gloves (butyl-rubber)

**Remarks**: Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact). The exact break through time can be obtained from the protective glove producer and this has to be observed. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Recommended preventive skin protection Skin should be washed after contact. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

**Eye protection**: Goggles

Wear face-shield and protective suit for abnormal processing problems.

**Skin and body protection**: Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures: When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Color</td>
<td>silver</td>
</tr>
<tr>
<td>Odor</td>
<td>characteristic</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point.boiling range</td>
<td>76 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>-4 °C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosion limit / Upper flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit / Lower flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>1.08 g/cm³</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
</tbody>
</table>

SECTION 10. STABILITY AND REACTIVITY

Reactivity: No decomposition if stored and applied as directed.

Chemical stability: No decomposition if stored and applied as directed.

Possibility of hazardous reactions: Contact with acids and alkalis may release hydrogen. Stable under recommended storage conditions. Vapors may form explosive mixture with air.

Conditions to avoid: Do not allow evaporation to dryness.
Heat, flames and sparks.

Incompatible materials:
- Acids
- Bases
- Oxidizing agents

**SECTION 11. TOXICOLOGICAL INFORMATION**

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

**Ingredients:**

**Acetic acid ethyl ester:**
- Acute oral toxicity: (Rat): 5,620 mg/kg
- Acute inhalation toxicity: LC50 (Rat): 56 mg/l
  Exposure time: 4 h
  Test atmosphere: vapor
- Acute dermal toxicity: LD50 (Rabbit): > 18,000 mg/kg

**2-Propanone:**
- Acute oral toxicity: LD50 (Rabbit): 4,700 - 5,800 mg/kg
  (Mouse): 3,000 mg/kg
  (Rat): 9,800 mg/kg
- Acute inhalation toxicity: LC50 (Rat): 76 mg/l
  Exposure time: 4 h
  Test atmosphere: vapor
- Acute dermal toxicity: LD50 (Rabbit): > 2,000 mg/kg

**Skin corrosion/irritation**
Not classified based on available information.

**Ingredients:**

**2-Propanone:**
Remarks: Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in desiccation of the skin.
**Serious eye damage/eye irritation**
Causes serious eye irritation.

**Ingredients:**
2-Propanone:
Remarks: Severe eye irritation

**Respiratory or skin sensitization**
**Skin sensitization**
Not classified based on available information.

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

**Germ cell mutagenicity**
Not classified based on available information.

**Carcinogenicity**
Not classified based on available information.

**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 component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**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**
Not classified based on available information.

**STOT-single exposure**
May cause drowsiness or dizziness.

**STOT-repeated exposure**
Not classified based on available information.

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

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

**Ingredients:**

**Acetic acid ethyl ester:**
Toxicity to daphnia and other aquatic invertebrates: (Daphnia): 717 mg/l

**2-Propanone:**
Toxicity to daphnia and other aquatic invertebrates: (Daphnia magna (Water flea)): 21,600 mg/l

**Persistence and degradability**
No data available

**Bioaccumulative potential**
No data available

**Other adverse effects**
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

Waste from residues: Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company. In accordance with local and national regulations.

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. In accordance with local and national regulations.

SECTION 14. TRANSPORT INFORMATION

**International Regulations**

**IATA-DGR**
UN/ID No.: UN 1263
SAFETY DATA SHEET

METALURE A-31017 AE

Version 1.0  Revision Date: 03/29/2018  SDS Number: 102000000676  Date of last issue: -  Date of first issue: 03/29/2018

Proper shipping name: Paint classified according to 3.3.3.1 IATA-DGR
Class: 3
Packing group: III
Labels: Flammable Liquids
Packing instruction (Cargo aircraft): 366
Packing instruction (passenger aircraft): 355

IMDG-Code
UN number: UN 1263
Proper shipping name: PAINT CLASSIFIED ACCORDING TO 2.3.2.2 IMDG-CODE
Class: 3
Packing group: III
Labels: 3
EmS Code: F-E, S-E
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 1263
Proper shipping name: Paint
Class: 3
Packing group: III
Labels: FLAMMABLE LIQUID
ERG Code: 128
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>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid ethyl ester</td>
<td>141-78-6</td>
<td>5000</td>
</tr>
</tbody>
</table>

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ.
SARA 311/312 Hazards: Flammable (gases, aerosols, liquids, or solids)
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

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

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>7429-90-5</td>
</tr>
<tr>
<td>Acetic acid ethyl ester</td>
<td>141-78-6</td>
</tr>
<tr>
<td>Propanone</td>
<td>67-64-1</td>
</tr>
</tbody>
</table>

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).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
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):

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid ethyl ester</td>
<td>141-78-6</td>
</tr>
<tr>
<td>Propanone</td>
<td>67-64-1</td>
</tr>
</tbody>
</table>

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
Acetic acid ethyl ester 141-78-6
Aluminum 7429-90-5
Propanone 67-64-1

Pennsylvania Right To Know
Acetic acid ethyl ester 141-78-6
Aluminum 7429-90-5
Propanone 67-64-1
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.

WARNING: This product can expose you to chemicals including lead and cadmium, which is/are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances
Acetic acid ethyl ester 141-78-6
Aluminum 7429-90-5
2-Propanone 67-64-1

California Permissible Exposure Limits for Chemical Contaminants
Acetic acid ethyl ester 141-78-6
Aluminum 7429-90-5
2-Propanone 67-64-1

SECTION 16. OTHER INFORMATION

Full text of other abbreviations
ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
NIOSH REL : USA. NIOSH Recommended Exposure Limits
OSHA P0 : USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-3 : USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
ACGIH / TWA : 8-hour, time-weighted average
ACGIH / STEL : Short-term exposure limit
NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
OSHA P0 / TWA : 8-hour time weighted average
OSHA P0 / STEL : Short-term exposure limit
OSHA Z-1 / TWA : 8-hour time weighted average
OSHA Z-3 / TWA : 8-hour time weighted average

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; IECSC - 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; RO - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - 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

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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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