SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

STAPA NDF 2120 Aluminum Paste

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier
   Trade name : STAPA NDF 2120 Aluminum Paste
   Product code : 053396G60

1.2 Relevant identified uses of the substance or mixture and uses advised against
   This information is not available.

1.3 Details of the supplier of the safety data sheet
   Company : ECKART GmbH
              Guentersthal 4
              91235 Hartenstein
   Telephone : +499152770
   Telefax : +499152777008
   E-mail address of person responsible for the SDS : msds.eckart@altana.com

1.4 Emergency telephone number
   GBK Gefahrgut Büro GmbH, Ingelheim, Germany:
   (First call in English, response in your language is possible)
   From outside US: (001) 352-323-3500
   US & Canada (toll free) : 1-800-5355-053

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
   Classification (REGULATION (EC) No 1272/2008)
   Flammable solids, Category 1 : H228: Flammable solid.
   Skin irritation, Category 2 : H315: Causes skin irritation.
   Eye irritation, Category 2 : H319: Causes serious eye irritation.
   Specific target organ toxicity - single exposure, Category 3, Central nervous system : H336: May cause drowsiness or dizziness.
   Long-term (chronic) aquatic hazard, Category 3 : H412: Harmful to aquatic life with long lasting effects.
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2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms:

- Flame
- Radiation symbol

Signal word: Danger

Hazard statements:
- H228 Flammable solid.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.
- H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:

Prevention:
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
- P370 + P378 In case of fire: Use for extinction: Special powder for metal fires.
- P370 + P378 In case of fire: Use for extinction: Dry sand.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Registration number</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluminium powder (stabilised)</td>
<td>7429-90-5</td>
<td>231-072-3</td>
<td>013-002-00-1</td>
<td></td>
<td>Flam. Sol. 1; H228</td>
<td>&gt;= 50 - &lt;= 100</td>
</tr>
</tbody>
</table>
SECTION 4: First aid measures

4.1 Description of first aid measures

General advice: Move the victim to fresh air.
Do not leave the victim unattended.
Move out of dangerous area.
Show this 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 skin irritation persists, call a physician.
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.
Flush eyes with water as a precaution.
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.
4.2 Most important symptoms and effects, both acute and delayed

Risks: Causes skin irritation.
      Causes serious eye irritation.
      May cause drowsiness or dizziness.

4.3 Indication of any immediate medical attention and special treatment needed

This information is not available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Dry sand
                             Special powder against metal fire

Unsuitable extinguishing media: Water
                               Foam
                               Carbon dioxide (CO2)
                               ABC powder

5.2 Special hazards arising from the substance or mixture

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

5.3 Advice for firefighters

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

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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: Evacuate personnel to safe areas.
                     Use personal protective equipment.
                     Use personal protective equipment.
                     Avoid dust formation.
                     Remove all sources of ignition.
## 6.2 Environmental precautions

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.

## 6.3 Methods and material for containment and cleaning up

Methods for cleaning up:
- Use mechanical handling equipment.
- Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

- Do not flush with water.
- Keep in suitable, closed containers for disposal.

## 6.4 Reference to other sections

For personal protection see section 8.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

**Advice on safe handling**:
- Keep away from heat and sources of ignition.
- Avoid dust formation.
- Ensure adequate ventilation.

- Avoid formation of respirable particles.
- Do not breathe vapours/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.
- Provide sufficient air exchange and/or exhaust in work rooms.
- Dispose of rinse water in accordance with local and national regulations.

**Advice on protection against fire and explosion**:
- Earthing of containers and apparatuses is essential. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment.
- Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition.

**Hygiene measures**:
- When using do not eat or drink. When using do not smoke.
- Wash hands before breaks and at the end of workday.

#### 7.2 Conditions for safe storage, including any incompatibilities

**Requirements for storage areas and containers**:
- Store in original container. Keep containers tightly closed in a cool, well-ventilated place. Keep container closed when not in use.
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use. Keep away from sources of ignition - No smoking.

No smoking. Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.

Further information on storage conditions:
Protect from humidity and water. Do not allow to dry.

Advice on common storage:
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.

7.3 Specific end use(s)
This information is not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis (Version Date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluminium powder (stabilised)</td>
<td>7429-90-5</td>
<td>TWA (Inhalable)</td>
<td>10 mg/m³</td>
<td>GB EH40 (2011-12-01)</td>
</tr>
<tr>
<td>Further information</td>
<td></td>
<td>TWA (Respirable)</td>
<td>4 mg/m³</td>
<td>GB EH40 (2011-12-01)</td>
</tr>
<tr>
<td>Further information</td>
<td></td>
<td>TWA (Inhalable)</td>
<td>10 mg/m³</td>
<td>GB EH40 (2005-04-06)</td>
</tr>
<tr>
<td>Further information</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the purposes of these limits, respirable dust and inhalable dust are those
fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust. The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m\(^{-3}\) 8-hour TWA of inhalable dust or 4 mg.m\(^{-3}\) 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed ‘inhalable’ and ‘respirable’. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3. Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.

<table>
<thead>
<tr>
<th>TWA (Respirable)</th>
<th>4 mg/m³</th>
<th>GB EH40 (2005-04-06)</th>
</tr>
</thead>
</table>
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<table>
<thead>
<tr>
<th>TWA (inhalable dust)</th>
<th>10 mg/m³</th>
<th>GB EH40 (2011-12-01)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Further information</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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methods for sampling and gravimetric analysis of respirable and inhalable dust. The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m⁻³ 8-hour TWA of inhalable dust or 4 mg.m⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed ‘inhalable’ and ‘respirable’. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3. Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.

<table>
<thead>
<tr>
<th>Compound</th>
<th>TWA (Respirable dust)</th>
<th>4 mg/m³</th>
<th>GB EH40 (2011-12-01)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4-trimethylbenzene</td>
<td>TWA 95-63-6 20 ppm</td>
<td>100 mg/m³ 2000/39/EC (2000-06-16)</td>
<td></td>
</tr>
<tr>
<td>Further information</td>
<td>Indicative</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA 25 ppm</td>
<td>125 mg/m³ GB EH40 (2011-12-01)</td>
<td></td>
</tr>
<tr>
<td>Further information</td>
<td>Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust. The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m⁻³ 8-hour TWA of inhalable dust or 4 mg.m⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed ‘inhalable’ and ‘respirable’. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3. Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.
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Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

<table>
<thead>
<tr>
<th>Substance name</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluminium powder (stabilised)</td>
<td>Workers</td>
<td>Inhalation</td>
<td>long term – local effects</td>
<td>3.72 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Oral</td>
<td>long term – systemic effects</td>
<td>3.95 mg/kg</td>
</tr>
</tbody>
</table>

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluminium powder (stabilised)</td>
<td>Fresh water</td>
<td>0.0749 mg/l</td>
</tr>
<tr>
<td></td>
<td>clarification plant</td>
<td>20 mg/l</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Personal protective equipment

Eye protection : Safety glasses

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.

Skin and body protection : Long sleeved clothing
Safety shoes
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

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

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

Environmental exposure controls
Water: The product should not be allowed to enter drains, water courses or the soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- **Appearance**: Pasty solid
- **Colour**: silver
- **Odour**: characteristic
- **Odour Threshold**: No data available
- **pH**: No data available
- **Freezing point**: No data available
- **Boiling point/boiling range**: No data available
- **Flash point**: No data available
- **Evaporation rate**: No data available
- **Flammability (solid, gas)**: The substance or mixture is a flammable solid with the category 1.
- **Self-ignition**: not auto-flammable
- **Auto-ignition temperature**: No data available
- **Smoldering temperature**: No data available
- **Decomposition temperature**: No data available
- **Explosive properties**: Not explosive. Vapours may form explosive mixture with air.
- **Oxidizing properties**: No data available
- **Upper explosion limit / Upper flammability limit**: No data available
- **Lower explosion limit / Lower flammability limit**: No data available
- **Vapour pressure**: No data available
- **Relative vapour density**: No data available
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Relative density : No data available
Density : 1.5 - 1.7 g/cm³
Bulk density : No data available
Water solubility : No data available
Solubility in other solvents : No data available
Partition coefficient: n-octanol/water : No data available
Decomposition temperature : No data available
Viscosity, dynamic : No data available
Viscosity, kinematic : No data available
Flow time : No data available

9.2 Other information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
No decomposition if stored and applied as directed.

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

10.3 Possibility of hazardous reactions
Hazardous reactions : Reacts with alkalis, acids, halogenes and oxidizing agents.
Contact with acids and alkalis may release hydrogen.
Mixture reacts slowly with water resulting in evolution of hydrogen.
Vapours may form explosive mixture with air.
Stable under recommended storage conditions.

10.4 Conditions to avoid
Conditions to avoid : Do not allow to dry.
Heat, flames and sparks.

10.5 Incompatible materials
Materials to avoid : Acids
Bases
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Oxidizing agents
Highly halogenated compounds

10.6 Hazardous decomposition products
Contact with water or humid air: This information is not available.

Thermal decomposition: This information is not available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity
Not classified based on available information.

Product:
Acute inhalation toxicity: Acute toxicity estimate: > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Components:
aluminium powder (stabilised):
Acute inhalation toxicity: LC50 (Rat): > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

solvent naphtha (petroleum), light arom.:
Acute oral toxicity: LD50 (Rat): 3,492 mg/kg
Acute dermal toxicity: LD50 (Rabbit): > 3,160 mg/kg

1,2,4-trimethylbenzene:
Acute inhalation toxicity: Assessment: The component/mixture is moderately toxic after short term inhalation.

Skin corrosion/irritation
Causes skin irritation.

Product:
Remarks: May cause skin irritation in susceptible persons.
Components:
distillates (petroleum), hydrotreated light:
Result: Skin irritation

Serious eye damage/eye irritation
Causes serious eye irritation.

Product:
Remarks: Product dust may be irritating to eyes, skin and respiratory system.

Respiratory or skin sensitisation
Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT - single exposure
May cause drowsiness or dizziness.

Components:
distillates (petroleum), hydrotreated light:
Assessment: May cause drowsiness or dizziness.

solvent naphtha (petroleum), light arom.:
Assessment: May cause respiratory irritation., May cause drowsiness or dizziness.

1,2,4-trimethylbenzene:
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT - repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

Components:
distillates (petroleum), hydrotreated light:
May be fatal if swallowed and enters airways.

**solvent naphtha (petroleum), light arom.:**
May be fatal if swallowed and enters airways.

**Further information**

**Product:**
Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Concentrations substantially above the TLV value may cause narcotic effects.
Solvents may degrease the skin.

### SECTION 12: Ecological information

#### 12.1 Toxicity

**Components:**

- **distillates (petroleum), hydrotreated light:**

  **Ecotoxicology Assessment**
  
  **Short-term (acute) aquatic hazard:** Harmful to aquatic life.
  
  **Long-term (chronic) aquatic hazard:** Harmful to aquatic life with long lasting effects.

- **solvent naphtha (petroleum), light arom.:**

  **Ecotoxicology Assessment**
  
  **Long-term (chronic) aquatic hazard:** Toxic to aquatic life with long lasting effects.

- **1,2,4-trimethylbenzene:**

  **Ecotoxicology Assessment**
  
  **Long-term (chronic) aquatic hazard:** Toxic to aquatic life with long lasting effects.

#### 12.2 Persistence and degradability

No data available

#### 12.3 Bioaccumulative potential

No data available

#### 12.4 Mobility in soil

No data available
12.5 Results of PBT and vPvB assessment

Product: STAPA NDF 2120 Aluminum Paste

Assessment: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Product: STAPA NDF 2120 Aluminum Paste

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.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product: STAPA NDF 2120 Aluminum Paste

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.

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

14.1 UN number

ADR: UN 1325
IMDG: UN 1325
IATA: UN 1325

14.2 UN proper shipping name

ADR: FLAMMABLE SOLID, ORGANIC, N.O.S. (Aluminium pigment paste)
IMDG: FLAMMABLE SOLID, ORGANIC, N.O.S. (Aluminium pigment paste)
IATA: Flammable solid, organic, n.o.s.
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14.3 Transport hazard class(es)

ADR : 4.1
IMDG : 4.1
IATA : 4.1

14.4 Packing group

ADR
Packing group : II
Classification Code : F1
Hazard Identification Number : 40
Labels : 4.1
Tunnel restriction code : (E)

IMDG
Packing group : II
Labels : 4.1
EmS Code : F-A, S-G
Remarks : IMDG Code segregation group 15 - Powdered metals

IATA (Cargo)
Packing instruction (cargo aircraft) : 448
Packing instruction (LQ) : Y441
Packing group : II
Labels : Flammable Solid

IATA (Passenger)
Packing instruction (passenger aircraft) : 445
Packing instruction (LQ) : Y441
Packing group : II
Labels : Flammable Solid

14.5 Environmental hazards

ADR
Environmentally hazardous : no

IMDG
Marine pollutant : no

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.
SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59): Not applicable

15.2 Chemical safety assessment

This information is not available.

SECTION 16: Other information

Full text of H-Statements

H226: Flammable liquid and vapour.
H228: Flammable solid.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H332: Harmful if inhaled.
H335: May cause respiratory irritation.
H336: May cause drowsiness or dizziness.
H411: Toxic to aquatic life with long lasting effects.
H412: Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.: Acute toxicity
Aquatic Chronic: Long-term (chronic) aquatic hazard
Asp. Tox.: Aspiration hazard
Eye Irrit.: Eye irritation
Flam. Liq.: Flammable liquids
Flam. Sol.: Flammable solids
Skin Irrit.: Skin irritation
STOT SE: Specific target organ toxicity - single exposure
GB EH40: UK. EH40 WEL - Workplace Exposure Limits
2000/39/EC / TWA: Limit Value - eight hours
GB EH40 / TWA: Long-term exposure limit (8-hour TWA reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; 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; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; 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; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

**Further information**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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