SAFETY DATA SHEET
according to the OSHA Hazard Communication Standard

Phthalylsulfathiazole / Sulfamerazine Formulation

Version 2.1 Revision Date: 09/30/2023 SDS Number: 5939809-00007 Date of last issue: 04/04/2023 Date of first issue: 05/26/2020

SECTION 1. IDENTIFICATION

Product name: Phthalylsulfathiazole / Sulfamerazine Formulation

Manufacturer or supplier's details
Company name of supplier: Merck & Co., Inc
Address: 126 E. Lincoln Avenue
         Rahway, New Jersey U.S.A. 07065
Telephone: 908-740-4000
Emergency telephone: 1-908-423-6000
E-mail address: EHSDATASTEWARD@merck.com

Recommended use of the chemical and restrictions on use
Recommended use: Veterinary product
Restrictions on use: Not applicable

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Combustible dust

GHS label elements
Signal Word: Warning
Hazard Statements: If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.

Other hazards
Dust contact with the eyes can lead to mechanical irritation.
Contact with dust can cause mechanical irritation or drying of the skin.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture

Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaolin</td>
<td>1332-58-7</td>
<td>75</td>
</tr>
<tr>
<td>Phthalylsulfathiazole</td>
<td>85-73-4</td>
<td>10</td>
</tr>
<tr>
<td>Aluminum hydroxide</td>
<td>21645-51-2</td>
<td>10</td>
</tr>
<tr>
<td>Sulfamerazine</td>
<td>127-79-7</td>
<td>5</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

General advice: In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled:
- If inhaled, remove to fresh air.
- Get medical attention if symptoms occur.

In case of skin contact:
- Wash with water and soap.
- Get medical attention if symptoms occur.

In case of eye contact:
- If in eyes, rinse well with water.
- Get medical attention if irritation develops and persists.

If swallowed:
- If swallowed, DO NOT induce vomiting.
- Get medical attention if symptoms occur.
- Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed:
- Contact with dust can cause mechanical irritation or drying of the skin.
- Dust contact with the eyes can lead to mechanical irritation.

Protection of first-aiders:
- No special precautions are necessary for first aid responders.

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:
- None known.

Specific hazards during firefighting:
- Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
- Exposure to combustion products may be a hazard to health.

Hazardous combustion products:
- Carbon oxides
- Nitrogen oxides (NOx)
- Sulfur oxides
- Metal oxides
- Silicon oxides

Specific extinguishing methods:
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Use water spray to cool unopened containers.
- Remove undamaged containers from fire area if it is safe to do so.
- Evacuate area.

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:
- Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
Environmental precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up: Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. 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. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures: Static electricity may accumulate and ignite suspended dust causing an explosion. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

Local/Total ventilation: Use only with adequate ventilation.

Advice on safe handling: Do not breathe dust. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment. Minimize dust generation and accumulation. Keep container closed when not in use. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the environment.

Conditions for safe storage: Keep in properly labeled containers. Store in accordance with the particular national regulations.

Materials to avoid: Do not store with the following product types: Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>inert or nuisance dust</td>
<td>50 Million particles per cubic foot</td>
</tr>
<tr>
<td>Value type (Form of exposure): TWA (total dust)</td>
<td></td>
</tr>
<tr>
<td>Basis: OSHA Z-3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15 mg/m³</td>
</tr>
</tbody>
</table>
Value type (Form of exposure): TWA (total dust)
Basis: OSHA Z-3
5 mg/m³

Value type (Form of exposure): TWA (respirable fraction)
Basis: OSHA Z-3
15 Million particles per cubic foot

Value type (Form of exposure): TWA (respirable fraction)
Basis: OSHA Z-3

Dust, nuisance dust and particulates
Value type (Form of exposure): PEL (Total dust)
Basis: CAL PEL
10 mg/m³

Value type (Form of exposure): PEL (respirable dust fraction)
Basis: CAL PEL
5 mg/m³

<table>
<thead>
<tr>
<th>Components</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>Kaolin</td>
<td>1332-58-7</td>
<td>TWA (Respirable particulate matter)</td>
<td>2 mg/m³</td>
<td>ACGIH</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)</td>
<td>10 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-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (respirable fraction)</td>
<td>5 mg/m³</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td>Phthalylsulfathiazole</td>
<td>85-73-4</td>
<td>TWA</td>
<td>OEB 2 (&gt;= 100 &lt; 1000 µg/m³)</td>
<td>Internal</td>
</tr>
<tr>
<td>Aluminum hydroxide</td>
<td>21645-51-2</td>
<td>TWA (Respirable particulate matter)</td>
<td>1 mg/m³ (Aluminum)</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Sulfamerazine</td>
<td>127-79-7</td>
<td>TWA</td>
<td>OEB 2 (&gt;= 100 &lt; 1000 µg/m³)</td>
<td>Internal</td>
</tr>
</tbody>
</table>

**Engineering measures**
Use feasible engineering controls to minimize exposure to compound.
All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.

**Personal protective equipment**
**Respiratory protection**
General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are
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unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection
Material: Chemical-resistant gloves

Eye protection: Wear safety glasses with side shields or goggles. If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles. Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

Skin and body protection: Work uniform or laboratory coat.

Hygiene measures: If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use. The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: fine powder
Color: White to light yellow
Odor: characteristic
Odor Threshold: No data available
pH: No data available
Melting point/freezing point: No data available
Initial boiling point and boiling range: No data available
Flash point: Not applicable
Evaporation rate: Not applicable
Flammability (solid, gas): May form explosive dust-air mixture during processing, handling or other means.
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tion

<table>
<thead>
<tr>
<th>Version</th>
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<th>Date of last issue:</th>
<th>Date of first issue:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>09/30/2023</td>
<td>5939809-00007</td>
<td>04/04/2023</td>
<td>05/26/2020</td>
</tr>
</tbody>
</table>

- Flammability (liquids): Not applicable
- Upper explosion limit / Upper flammability limit: No data available
- Lower explosion limit / Lower flammability limit: No data available
- Vapor pressure: Not applicable
- Relative vapor density: Not applicable
- Relative density: No data available
- Density: No data available
- Solubility (ies): practically insoluble
- Water solubility: practically insoluble
- Partition coefficient: n-octanol/water: Not applicable
- Autoignition temperature: No data available
- Decomposition temperature: No data available
- Viscosity: Not applicable
- Viscosity, kinematic: Not applicable
- Explosive properties: Not explosive
- Oxidizing properties: The substance or mixture is not classified as oxidizing.
- Molecular weight: No data available
- Particle size: No data available

SECTION 10. STABILITY AND REACTIVITY

- Reactivity: Not classified as a reactivity hazard.
- Chemical stability: Stable under normal conditions.
- Possibility of hazardous reactions: May form explosive dust-air mixture during processing, handling or other means. Can react with strong oxidizing agents.
- Conditions to avoid: Heat, flames and sparks. Avoid dust formation.
- Incompatible materials: Oxidizing agents
- Hazardous decomposition products: No hazardous decomposition products are known.
**SAFETY DATA SHEET**

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<table>
<thead>
<tr>
<th>Section</th>
<th>Part</th>
<th>Subpart</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SECTION 11. TOXICOLOGICAL INFORMATION</strong></td>
<td><strong>Information on likely routes of exposure</strong></td>
<td><strong>Inhalation</strong></td>
<td>Not classified based on available information.</td>
</tr>
<tr>
<td></td>
<td><strong>Skin contact</strong></td>
<td><strong>Acute toxicity</strong></td>
<td>Not classified based on available information.</td>
</tr>
<tr>
<td></td>
<td><strong>Ingestion</strong></td>
<td><strong>Phthalylsulfathiazole</strong></td>
<td><strong>Acute oral toxicity</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Eye contact</strong></td>
<td><strong>Acute oral toxicity</strong></td>
<td>LD50 (Rat, female): &gt; 2,000 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Acute inhalation toxicity</strong></td>
<td>LC50 (Rat): &gt; 2.07 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Acute dermal toxicity</strong></td>
<td>LD50 (Rat): &gt; 5,000 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Aluminum hydroxide</strong></td>
<td><strong>Acute oral toxicity</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LD50 (Rat): &gt; 2,000 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Method: OECD Test Guideline 423</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Assessment: The substance or mixture has no acute oral toxicity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LD50 (Rat): &gt; 5,000 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Method: OECD Test Guideline 402</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Assessment: The substance or mixture has no acute dermal toxicity</td>
</tr>
</tbody>
</table>

**Components:**

- **Kaolin:**
  - Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg |
  - Remarks: Based on data from similar materials |
  - Acute inhalation toxicity: LC50 (Rat): > 2.07 mg/l |
  - Exposure time: 4 h |
  - Test atmosphere: dust/mist |
  - Assessment: The substance or mixture has no acute inhalation toxicity |
  - Remarks: Based on data from similar materials |
  - Acute dermal toxicity: LD50 (Rat): > 5,000 mg/kg |
  - Assessment: The substance or mixture has no acute dermal toxicity |
  - Remarks: Based on data from similar materials |
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Remarks: Based on data from similar materials

Sulfamerazine:
Acute oral toxicity: LD50 (Mouse): 25,000 mg/kg

Skin corrosion/irritation
Not classified based on available information.

**Components:**

**Kaolin:**
Species: Rabbit  
Method: OECD Test Guideline 404  
Result: No skin irritation  
Remarks: Based on data from similar materials

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

**Aluminum hydroxide:**
Species: Rabbit  
Method: OECD Test Guideline 404  
Result: No skin irritation

**Serious eye damage/eye irritation**
Not classified based on available information.

**Components:**

**Kaolin:**
Species: Rabbit  
Result: No eye irritation  
Remarks: Based on data from similar materials

**Phthalylsulfathiazole:**
Species: Rabbit  
Result: No eye irritation  
Method: OECD Test Guideline 405

**Aluminum hydroxide:**
Species: Rabbit  
Result: No eye irritation  
Method: OECD Test Guideline 405
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Respiratory or skin sensitization

Skin sensitization
Not classified based on available information.

Respiratory sensitization
Not classified based on available information.

Components:

Aluminum hydroxide:
Test Type: Maximization Test
Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

Germ cell mutagenicity
Not classified based on available information.

Components:

Aluminum hydroxide:
Genotoxicity in vitro:
Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
Test Type: Chromosome aberration test in vitro
Result: positive
Remarks: Based on data from similar materials
Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Result: equivocal
Remarks: Based on data from similar materials
Test Type: in vitro micronucleus test
Result: positive
Remarks: Based on data from similar materials

Genotoxicity in vivo:
Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative

Carcinogenicity
Not classified based on available information.
Components:

Aluminum hydroxide:
Species: Rat
Application Route: inhalation (dust/mist/fume)
Exposure time: 86 weeks
Result: negative
Remarks: Based on data from similar materials

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.

Components:

Aluminum hydroxide:
Effects on fertility: Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative
Remarks: Based on data from similar materials

Effects on fetal development: Test Type: Embryo-fetal development
Species: Rat
Application Route: Ingestion
Result: negative

STOT-single exposure
Not classified based on available information.

STOT-repeated exposure
Not classified based on available information.

Repeated dose toxicity

Components:

Aluminum hydroxide:
Species: Rat
NOAEL: > 100 mg/kg
Application Route: Ingestion
Exposure time: 364 Days
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Method: OECD Test Guideline 426
Remarks: Based on data from similar materials

Species: Rat
NOAEL: > 0.2 mg/kg
Application Route: inhalation (dust/mist/fume)
Exposure time: 12 Months
Remarks: Based on data from similar materials

Aspiration toxicity
Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
Components:

Kaolin:
Toxicity to fish (Chronic toxicity): NOELR (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 30 d

Phthalylsulfathiazole:
Ecotoxicology Assessment
Acute aquatic toxicity: Toxic effects cannot be excluded
Chronic aquatic toxicity: Toxic effects cannot be excluded

Aluminum hydroxide:
Toxicity to fish: LL50 (Salmo trutta (brown trout)): > 100 mg/l
Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates: EL50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Toxicity to algae/aquatic plants: EL50 (Selenastrum capricornutum (green algae)): > 100 mg/l
Exposure time: 96 h

Sulfamerazine:
Toxicity to fish: LC50 (Morone saxatilis (striped bass)): > 100 mg/l
Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 227 mg/l
Exposure time: 48 h

Persistence and degradability
No data available
Bioaccumulative potential

Components:

**Phthalylsulfathiazole:**
Partition coefficient: n-octanol/water  :  log Pow: -2

**Sulfamerazine:**
Partition coefficient: n-octanol/water  :  log Pow: 0.728

Mobility in soil
No data available

Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues  :  Dispose of in accordance with local regulations.
                      Do not dispose of waste into sewer.
Contaminated packaging  :  Empty containers should be taken to an approved waste handling site for recycling or disposal.
                           If not otherwise specified: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

**UNRTDG**
Not regulated as a dangerous good

**IATA-DGR**
Not regulated as a dangerous good

**IMDG-Code**
Not regulated as a dangerous good

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**
Not regulated as a dangerous good

Special precautions for user
Not applicable
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SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

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
Combustible dust

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.

US State Regulations

Pennsylvania Right To Know
Kaolin 1332-58-7
Aluminum hydroxide 21645-51-2
Phthalylsulfathiazole 85-73-4
Sulfamerazine 127-79-7

California Permissible Exposure Limits for Chemical Contaminants
Kaolin 1332-58-7

The ingredients of this product are reported in the following inventories:
AICS: not determined
DSL: not determined
IECSC: not determined

SECTION 16. OTHER INFORMATION

Further information
NFPA 704:

- Health: 0
- Flammability: 1
- Instability: 0
- Special hazard: None

HMIS® IV:

- HEALTH: / 0
- FLAMMABILITY: 3
- PHYSICAL HAZARD: 0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations:

- ACGIH: USA. ACGIH Threshold Limit Values (TLV)
- CAL PEL: California permissible exposure limits for chemical contaminants
- NIOSH REL: USA. NIOSH Recommended Exposure Limits
- 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
- CAL PEL / TWA: Permissible exposure limit
- NIOSH REL / TWA: Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
- OSHA Z-1 / TWA: 8-hour time weighted average
- OSHA Z-3 / TWA: 8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; 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
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50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Pre-
vention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Other-
wise 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 sub-
stance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantita-
tive) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; 
REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concern-
ing the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable 
Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amend-
ments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance 
Inventory; TECI - Thailand Existing Chemicals 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

Sources of key data used to compile the Material Safety 
Data Sheet: Internal technical data, data from raw material SDSs, OECD 
eChem Portal search results and European Chemicals Agen-

Revision Date: 09/30/2023

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 is designed only as a 
guidance for safe handling, use, processing, storage, transportation, disposal and release and 
shall not be considered a warranty or quality specification of any type. The information provided 
relates only to the specific material identified at the top of this SDS and may not be valid when the 
SDS material is used in combination with any other materials or in any process, unless specified 
in the text. Material users should review the information and recommendations in the specific 
context of their intended manner of handling, use, processing and storage, including an 
assessment of the appropriateness of the SDS material in the user’s end product, if applicable.

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