SAFETY DATA SHEET

Creation Date 07-Jul-2009
Revision Date 24-Dec-2021
Revision Number 5

1. Identification

Product Name Lead(II) nitrate
Cat No. AC193320000, AC193320100, AC193320500
CAS No 10099-74-8
Synonyms Nitric acid, lead(2+) salt; Plumbous nitrate.; Lead dinitrate
Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use.

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>Category 2</td>
</tr>
<tr>
<td>Acute Inhalation Toxicity - Dusts and Mists</td>
<td>Category 4</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Category 1B</td>
</tr>
<tr>
<td>Reproductive Toxicity</td>
<td>Category 1A</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Target Organs - Central nervous system (CNS).</td>
<td></td>
</tr>
<tr>
<td>Specific target organ toxicity - (repeated exposure)</td>
<td>Category 2</td>
</tr>
<tr>
<td>Target Organs - Kidney, Liver, Blood.</td>
<td></td>
</tr>
</tbody>
</table>

Label Elements

Signal Word Danger
**Hazard Statements**
May intensify fire; oxidizer
Causes serious eye damage
May cause drowsiness or dizziness
May cause cancer
May damage the unborn child. Suspected of damaging fertility
May cause damage to organs through prolonged or repeated exposure
Harmful if swallowed or if inhaled

**Precautionary Statements**
**Prevention**
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep/Store away from clothing/ other combustible materials
Take any precaution to avoid mixing with combustibles

**Response**
IF exposed or concerned: Get medical attention/advice

**Inhalation**
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

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

**Ingestion**
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

**Fire**
In case of fire: Use CO2, dry chemical, or foam for extinction

**Storage**
Store locked up
Store in a well-ventilated place. Keep container tightly closed

**Disposal**
Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**
Very toxic to aquatic life with long lasting effects
WARNING. Cancer - https://www.p65warnings.ca.gov/

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### 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead(II) nitrate</td>
<td>10099-74-8</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

### 4. First-aid measures
**Lead(II) nitrate**

**Revision Date** 24-Dec-2021

**Eye Contact**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Skin Contact**
Wash off immediately with plenty of water for at least 15 minutes. Get medical attention.

**Inhalation**
Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. If not breathing, give artificial respiration.

**Ingestion**
Do NOT induce vomiting. Call a physician or poison control center immediately.

**Most important symptoms and effects**
Causes severe eye damage.

**Notes to Physician**
Treat symptomatically

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### 5. Fire-fighting measures

**Suitable Extinguishing Media**
Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.

**Unsuitable Extinguishing Media**
No information available

**Flash Point**
Not applicable

**Method -**
No information available

**Autoignition Temperature**
No information available

**Explosion Limits**
No data available

**Upper**
No data available

**Lower**
No data available

**Oxidizing Properties**
Oxidizer

**Sensitivity to Mechanical Impact**
No information available

**Sensitivity to Static Discharge**
No information available

#### Specific Hazards Arising from the Chemical
Oxidizer: Contact with combustible/organic material may cause fire. Thermal decomposition can lead to release of irritating gases and vapors. May ignite combustibles (wood paper, oil, clothing, etc.). Do not allow run-off from fire-fighting to enter drains or water courses.

#### Hazardous Combustion Products
Nitrogen oxides (NOx), lead oxides.

#### Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

#### NFPA

<table>
<thead>
<tr>
<th></th>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>OX</td>
</tr>
</tbody>
</table>

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### 6. Accidental release measures

#### Personal Precautions
Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid dust formation.

#### Environmental Precautions
Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Should not be released into the environment.
Lead(II) nitrate

**Methods for Containment and Clean up**
Avoid dust formation. Provide adequate ventilation. Keep combustibles (wood, paper, oil, etc) away from spilled material. Sweep up and shovel into suitable containers for disposal.

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**7. Handling and storage**

**Handling**
Use only under a chemical fume hood. Wear personal protective equipment/face protection. Keep away from clothing and other combustible materials. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Do not breathe dust.

**Storage.**

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**8. Exposure controls / personal protection**

**Exposure Guidelines**
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
<th>Mexico OEL (TWA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead(II) nitrate</td>
<td>TWA: 0.05 mg/m³</td>
<td></td>
<td>IDLH: 100 mg/m³</td>
<td>TWA: 0.05 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TWA: 0.050 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

**Legend**
ACGIH - American Conference of Governmental Industrial Hygienists
NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

**Engineering Measures**
Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal Protective Equipment**

**Eye/face Protection**
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection**
Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection**
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice.

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**9. Physical and chemical properties**

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>3 - 4 °C 20% aq. sol</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>470 °C / 878 °F</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid,gas)</td>
<td>No data available</td>
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<tr>
<td>Flammability or explosive limits Upper</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability or explosive limits Lower</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>negligible</td>
</tr>
</tbody>
</table>

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Lead(II) nitrate

Vapor Density
Not applicable
Specific Gravity
4.530
Solubility
Soluble in water
Partition coefficient; n-octanol/water
No data available
Autoignition Temperature
No information available
Decomposition Temperature
No information available
Viscosity
Not applicable
Molecular Formula
N2 O6 Pb
Molecular Weight
331.2

10. Stability and reactivity

Reactive Hazard
Yes
Stability
Oxidizer: Contact with combustible/organic material may cause fire.
Conditions to Avoid
Incompatible Materials
Strong reducing agents, Organic materials, Finely powdered metals, Combustible material
Hazardous Decomposition Products
Nitrogen oxides (NOx), lead oxides
Hazardous Polymerization
Hazardous polymerization does not occur.
Hazardous Reactions
None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information
Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead(II) nitrate</td>
<td>LD50 = 93 mg/kg (Rat)</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products
No information available

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

Irritation
Risk of serious damage to eyes
Sensitization
May cause sensitization by skin contact
Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead(II) nitrate</td>
<td>10099-74-8</td>
<td>Group 2A</td>
<td>Reasonably Anticipated</td>
<td>A3</td>
<td>X</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Possibly Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans

Mutagenic Effects
No information available
Reproductive Effects
Experiments have shown reproductive toxicity effects on laboratory animals.
Developmental Effects
Developmental effects have occurred in experimental animals.
Teratogenicity
Teratogenic effects have occurred in experimental animals.
STOT - single exposure
Central nervous system (CNS)
Lead(II) nitrate

STOT - repeated exposure
Kidney Liver Blood

Aspiration hazard
No information available

Symptoms / effects, both acute and delayed
No information available

Endocrine Disruptor Information
No information available

Other Adverse Effects
The toxicological properties have not been fully investigated.

### 12. Ecological information

This product contains a chemical which is listed as a marine pollutant according to DOT

**Ecotoxicity**
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not allow material to contaminate ground water system.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead(II) nitrate</td>
<td>Not listed</td>
<td>LC50: 1.5 mg/l/96 h (Oncorhynchus mykiss)</td>
<td>Not listed</td>
<td>EC50: 0.5 - 2 mg/l/48 h (Daphnia magna)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50: 0.4 - 1.3 mg/l/96 h (Cyprinus carpio)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Persistence and Degradability
May persist based on information available.

Bioaccumulation/ Accumulation
No information available.

Mobility
Will likely be mobile in the environment due to its water solubility.

### 13. Disposal considerations

**Waste Disposal Methods**
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

### 14. Transport information

**DOT**

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN1469</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>LEAD NITRATE</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>5.1</td>
</tr>
<tr>
<td>Subsidiary Hazard Class</td>
<td>6.1</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
</tr>
</tbody>
</table>

**TDG**

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN1469</th>
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<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>LEAD NITRATE</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>5.1</td>
</tr>
<tr>
<td>Subsidiary Hazard Class</td>
<td>6.1</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
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</tbody>
</table>

**IATA**

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN1469</th>
</tr>
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<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>LEAD NITRATE</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>5.1</td>
</tr>
<tr>
<td>Subsidiary Hazard Class</td>
<td>6.1</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
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</table>

**IMDG/IMO**

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN1469</th>
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<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>LEAD NITRATE</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>5.1</td>
</tr>
<tr>
<td>Subsidiary Hazard Class</td>
<td>6.1</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
</tr>
</tbody>
</table>
## 15. Regulatory information

### United States of America Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active-Inactive</th>
<th>TSCA - EPA Regulatory Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead(II) nitrate</td>
<td>10099-74-8</td>
<td>X</td>
<td>ACTIVE</td>
<td>-</td>
</tr>
</tbody>
</table>

Legend:

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

- Listed

- Not Listed

**TSCA 12(b)** - Notices of Export  
Not applicable

### International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>PICCS</th>
<th>ENCS</th>
<th>ISHL</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead(II) nitrate</td>
<td>10099-74-8</td>
<td>X</td>
<td>-</td>
<td>233-245-9</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-21907</td>
<td></td>
</tr>
</tbody>
</table>

**KECL** - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

### U.S. Federal Regulations

#### SARA 313

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead(II) nitrate</td>
<td>10099-74-8</td>
<td>&gt;95</td>
<td>0.1 1.0</td>
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</tbody>
</table>

#### SARA 311/312 Hazard Categories

See section 2 for more information

#### CWA (Clean Water Act)

<table>
<thead>
<tr>
<th>Component</th>
<th>CWA - Hazardous Substances</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead(II) nitrate</td>
<td>X</td>
<td>10 lb</td>
<td>X</td>
<td>-</td>
</tr>
</tbody>
</table>

### Clean Air Act

<table>
<thead>
<tr>
<th>Component</th>
<th>HAPS Data</th>
<th>Class 1 Ozone Depleters</th>
<th>Class 2 Ozone Depleters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead(II) nitrate</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### OSHA - Occupational Safety and Health Administration

<table>
<thead>
<tr>
<th>Component</th>
<th>Specifically Regulated Chemicals</th>
<th>Highly Hazardous Chemicals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead(II) nitrate</td>
<td>30 µg/m³ Action Level 50 µg/m³ TWA</td>
<td>-</td>
</tr>
</tbody>
</table>

### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead(II) nitrate</td>
<td>10 lb</td>
<td>-</td>
</tr>
</tbody>
</table>

### California Proposition 65

This product contains the following Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>California Prop. 65</th>
<th>Prop 65 NSRL</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead(II) nitrate</td>
<td>10099-74-8</td>
<td>Cancer/Developmental</td>
<td>-</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>
Lead(II) nitrate

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead(II) nitrate</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. Department of Transportation
Reportable Quantity (RQ): Y
DOT Marine Pollutant: Y
DOT Severe Marine Pollutant: N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations
Mexico - Grade: No information available

Authorisation/Restrictions according to EU REACH

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead(II) nitrate</td>
<td>Use restricted. See item 30. (see link for restriction details)</td>
<td>Use restricted. See item 63. (see link for restriction details)</td>
<td>SVHC Candidate list - 233-245-9 - Toxic for reproduction, Article 57c</td>
</tr>
</tbody>
</table>

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

https://echa.europa.eu/authorisation-list
https://echa.europa.eu/candidate-list-table

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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>OECD HPV</th>
<th>Persistent Organic Pollutant</th>
<th>Ozone Depletion Potential</th>
<th>Restriction of Hazardous Substances (RoHS)</th>
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<tbody>
<tr>
<td>Lead(II) nitrate</td>
<td>10099-74-8</td>
<td>Listed</td>
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<td>Not applicable</td>
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<table>
<thead>
<tr>
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<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead(II) nitrate</td>
<td>10099-74-8</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Annex I - Y31</td>
</tr>
</tbody>
</table>

16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date
07-Jul-2009

Revision Date
24-Dec-2021

Print Date
24-Dec-2021

Revision Summary
This document has been updated to comply with the US OSHA HazCom 2012 Standard
replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer
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.

End of SDS