According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

1 - Product and Company Information

<table>
<thead>
<tr>
<th>Product Name</th>
<th>DIMETHYL PHOSPHITE, 98%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Number</td>
<td>D178454</td>
</tr>
<tr>
<td>Company</td>
<td>Sigma-Aldrich Pty. Ltd.</td>
</tr>
<tr>
<td></td>
<td>12 Anella Avenue</td>
</tr>
<tr>
<td></td>
<td>Castle Hill NSW 2154</td>
</tr>
<tr>
<td>Australia</td>
<td></td>
</tr>
<tr>
<td>Technical Phone #</td>
<td>+61 2 9841 0555 (1800 800 097)</td>
</tr>
<tr>
<td>Fax</td>
<td>+61 2 9841 0500 (1800 800 096)</td>
</tr>
<tr>
<td>Emergency Phone #</td>
<td>+44 8701906777 (1800 448 465)</td>
</tr>
</tbody>
</table>

2 - Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Product Name</th>
<th>CAS #</th>
<th>EC no</th>
<th>Annex I Index Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIMETHYL PHOSPHITE</td>
<td>868-85-9</td>
<td>212-783-8</td>
<td>None</td>
</tr>
</tbody>
</table>

Formula: C2H7O3P
Molecular Weight: 110.05 AMU
Synonyms:
- Bis(hydroxymethyl)phosphine oxide *
- Dimethoxyphosphine oxide *
- Dimethyl phosphite *
- Dimethylester kyseliny fosforite (Czech) *
- Dimethylfosfit (Czech) *
- Dimethylfosfonat (Czech) *
- Dimethylhydrogenphosphite *
- Dimethyl hydrogen phosphonate *
- Dimethyl phosphite *
- Dimethyl phosphonate *
- Dimethyl phosphorous acid *
- Hydrogen dimethyl phosphite *
- Methyl phosphonate ((MeO)2HPO) *
- NCI-C54773 *
- Phosphorous acid dimethyl ester

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Flammable. Irritating to eyes.

4 - First Aid Measures

AFTER INHALATION
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

AFTER SKIN CONTACT
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.
AFTER EYE CONTACT
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION
If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA
Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS
Specific Hazard(s): Flammable liquid. Emits toxic fumes under fire conditions.
Explosion Hazards: Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP
Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING
Directions for Safe Handling: Avoid contact with eyes, skin, and clothing. Do not breathe vapor. Avoid prolonged or repeated exposure.

STORAGE
Conditions of Storage: Keep container closed. Keep away from heat, sparks, and open flame.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS
Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling.
PERSONAL PROTECTIVE EQUIPMENT
Respiratory Protection: Government approved respirator.
Hand Protection: Compatible chemical-resistant gloves.
Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Colorless</td>
<td></td>
</tr>
<tr>
<td>Form</td>
<td>Clear liquid</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>BP/MP Range</td>
<td>171.0 - 172.0 °C</td>
<td></td>
</tr>
<tr>
<td>MP/MP Range</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>29 °C</td>
<td>Method: closed cup</td>
</tr>
<tr>
<td>Flammability</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Autoignition Temp</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>N/A</td>
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</tr>
<tr>
<td>Explosion Limits</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>2.5 mmHg</td>
<td>38 °C</td>
</tr>
<tr>
<td>SG/Density</td>
<td>1.201 g/cm³</td>
<td></td>
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<tr>
<td>Partition Coefficient</td>
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<td></td>
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<tr>
<td>Viscosity</td>
<td>N/A</td>
<td></td>
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<tr>
<td>Vapor Density</td>
<td>N/A</td>
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</tr>
<tr>
<td>Saturated Vapor Conc.</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
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<tr>
<td>Bulk Density</td>
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<tr>
<td>Decomposition Temp.</td>
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<tr>
<td>Solvent Content</td>
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<td></td>
</tr>
<tr>
<td>Water Content</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Surface Tension</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Conductivity</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous Data</td>
<td>N/A</td>
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</tr>
<tr>
<td>Solubility</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

10 - Stability and Reactivity

STABILITY
Stable: Stable.
Conditions of Instability: May decompose on exposure to moist air or water.
Materials to Avoid: Acid chlorides, Strong acids, Strong bases, Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Thermal decomposition may produce toxic fumes of phosphorus oxides and/or phosphine Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: SZ7710000

ACUTE TOXICITY

LD50
Oral
Rat
3040 mg/kg

LC50
Inhalation
Rat
> 20,000 mg/m3

LD50
Subcutaneous
Rat
2970 MG/KG

LD50
Oral
Mouse
1831 mg/kg

LD50
Subcutaneous
Mouse
2610 MG/KG

LD50
Skin
Rabbit
681 mg/kg

LD50
Oral
Guinea pig
900 mg/kg

IRRITATION DATA
Unreported
Man
DURING WORKING OURS PLANT EXPOSURE

Skin
Rabbit
500 mg
24H
Remarks: Mild irritation effect

Eyes
Rabbit
20 mg
24H
Remarks: Moderate irritation effect

SIGNS AND SYMPTOMS OF EXPOSURE
Nausea, headache, and vomiting. Exposure can cause: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

ROUTE OF EXPOSURE
Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes eye irritation.
Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed.

TARGET ORGAN INFORMATION

CHRONIC EXPOSURE - CARCINOGEN
Result: The National Cancer Institute (NCI) has found clear evidence for carcinogenicity. This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

Rat
Route of Application: Oral
Exposure Time: 2Y

IARC CARCINOGEN LIST
Rating: Group 3

CHRONIC EXPOSURE - MUTAGEN

Mouse
1500 MG/KG
Intraperitoneal
3D
Micronucleus test

Mouse
1700 MG/L (+S9)
Cell Type: lymphocyte
Mutation in microorganisms

Mouse
2100 MG/L
Cell Type: lymphocyte
Mutation in mammalian somatic cells.

Hamster
1600 MG/L
Cell Type: ovary
Cytogenetic analysis

Hamster
250 MG/L
Cell Type: ovary
Sister chromatid exchange

12 - Ecological Information

No data available.
13 - Disposal Considerations

SUBSTANCE DISPOSAL
Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR
UN#: 1993
Class: 3
PG: III
Proper Shipping Name: Flammable liquid, n.o.s.

IMDG
UN#: 1993
Class: 3
PG: III
Proper Shipping Name: Flammable liquid, n.o.s.
Marine Pollutant: No
Severe Marine Pollutant: No
Technical Name: Required

IATA
UN#: 1993
Class: 3
PG: III
Proper Shipping Name: Flammable liquid, n.o.s.
Inhalation Packing Group I: No
Technical Name: Required

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES
INDICATION OF DANGER: Xi
Irritant.
R-PHRASES: 10-36
Flammable. Irritating to eyes.
S-PHRASES: 26
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

COUNTRY SPECIFIC INFORMATION

Germany
WGK: 1

16 - Other Information

WARRANTY
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice.
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