HEXAMETHYLPHOSPHORIC ACID TRIAMIDE MSDS

CAS No: 680-31-9 MSDS

MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier

| Product form | : Substance |
| EC no | : 211-653-8 |
| CAS No | : 680-31-9 |
| Product code | : 4048D |
| Formula | : C6H18N3OP |
| Synonyms | : HMPA |

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture : Industrial. For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

LOBA CHEMIE PVT.LTD.
107 Wode House Road, Jehangir Villa, Colaba
400005 Mumbai - INDIA
T +91 22 6663 6663 - F +91 22 6663 6699
info@lobachemie.com - www.lobachemie.com

1.4. Emergency telephone number

Emergency number : + 91 22 6663 6663 (9:00am - 6:00 pm)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Germ cell mutagenicity, Category 1B
Carcinogenicity, Category H350

Full text of classification categories and H statements : see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC

Carc.Cat.1; R45
Muta.Cat.1; R46

Full text of R-phrases: see section 16
Adverse physicochemical, human health and environmental effects
No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) : GHS08

Signal word (CLP) : Danger

Hazard statements (CLP) : H340 - May cause genetic defects
H350 - May cause cancer

Precautionary statements (CLP) : P201 - Obtain special instructions before use
P308+P313 - IF exposed or concerned: Get medical advice/attention

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Name : HEXAMETHYLPHOSPHORIC ACID TRIAMIDE
CAS No : 680-31-9
EC no : 211-653-8

Full text of R- and H-phrases: see section 16

3.2. Mixture
Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Get medical advice/attention. Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash with plenty of soap and water.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
First-aid measures after ingestion : Rinse mouth. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : May cause genetic defects. May cause cancer.
4.3. **Indication of any immediate medical attention and special treatment needed**
No additional information available

**SECTION 5: Firefighting measures**

5.1. **Extinguishing media**
Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. **Special hazards arising from the substance or mixture**
No additional information available

5.3. **Advice for firefighters**
Protection during firefighting: Do not attempt to take action without suitable protective equipment.

**SECTION 6: Accidental release measures**

6.1. **Personal precautions, protective equipment and emergency procedures**

6.1.1. **For non-emergency personnel**
Emergency procedures: Evacuate unnecessary personnel.

6.1.2. **For emergency responders**
Protective equipment: Use personal protective equipment as required.
Emergency procedures: Ventilate area.

6.2. **Environmental precautions**
Avoid release to the environment.

6.3. **Methods and material for containment and cleaning up**
Methods for cleaning up: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. On land, sweep or shovel into suitable containers. Collect spillage.

6.4. **Reference to other sections**
No additional information available

**SECTION 7: Handling and storage**

7.1. **Precautions for safe handling**
Precautions for safe handling: Avoid contact with skin and eyes. Do not breathe vapours.
Hygiene measures: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. **Conditions for safe storage, including any incompatibilities**
Storage conditions: Store in a well-ventilated place. Keep container tightly closed.

7.3. **Specific end use(s)**
No additional information available

**SECTION 8: Exposure controls/personal protection**

8.1. **Control parameters**
No additional information available
8.2. Exposure controls

Hand protection: protective gloves
Eye protection: Chemical goggles or safety glasses
Skin and body protection: Wear suitable protective clothing
Respiratory protection: Wear respiratory protection

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid
Colour: colorless to light yellow.
Odour: No data available
Odour threshold: No data available
pH: No data available
Relative evaporation rate (butylacetate=1): No data available
Melting point: No data available
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Flammability (solid, gas): No data available
Vapour pressure: No data available
Relative vapour density at 20 °C: No data available
Relative density: No data available
Solubility: No data available
Log Pow: No data available
Viscosity, kinematic: No data available
Viscosity, dynamic: No data available
Explosive properties: No data available
Oxidising properties: No data available
Explosive limits: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available
10.2. Chemical stability
No additional information available

10.3. Possibility of hazardous reactions
No additional information available

10.4. Conditions to avoid
Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity : Not classified

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : May cause genetic defects.
Carcinogenicity : May cause cancer.

Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity
No additional information available

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available
12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
No additional information available

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

| UN-No. (ADR) | 3082 |
| UN-No. (IMDG) | 3082 |
| UN-No. (IATA) | 3082 |
| UN-No. (ADN) | Not regulated |
| UN-No. (RID) | Not regulated |

14.2. UN proper shipping name

Proper Shipping Name (ADR) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Proper Shipping Name (IATA) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Proper Shipping Name (ADN) : Not regulated
Proper Shipping Name (RID) : Not regulated

Transport document description (ADR) : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III, (E)
Transport document description (IMDG) : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III
Transport document description (IATA) : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III

14.3. Transport hazard class(es)

ADR
Transport hazard class(es) (ADR) : 9
Danger labels (ADR) : 9

IMDG
Transport hazard class(es) (IMDG) : 9
Danger labels (IMDG) : 9
### IATA
- Transport hazard class(es) (IATA): 9
- Hazard labels (IATA): 9

### ADN
- Transport hazard class(es) (ADN): Not regulated

### RID
- Transport hazard class(es) (RID): Not regulated

### 14.4. Packing group
- Packing group (ADR): III
- Packing group (IMDG): III
- Packing group (IATA): III
- Packing group (ADN): Not regulated
- Packing group (RID): Not regulated

### 14.5. Environmental hazards
- Dangerous for the environment: No
- Marine pollutant: No
- Other information: No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport
- Classification code (ADR): M6
- Special provision (ADR): 274, 335, 601, 375
- Limited quantities (ADR): 5L
- Excepted quantities (ADR): E1
- Packing instructions (ADR): P001, IBC03, LP01, R001
- Special packing provisions (ADR): PP1
- Mixed packing provisions (ADR): MP19
- Portable tank and bulk container instructions (ADR): T4
- Portable tank and bulk container special provisions (ADR): TP1, TP29
- Tank code (ADR): LGBV
- Vehicle for tank carriage: AT
- Transport category (ADR): 3
- Special provisions for carriage - Packages (ADR): V12
- Special provisions for carriage - Loading, unloading and handling (ADR): CV13
- Hazard identification number (Kemler No.): 90
HEXAMETHYLPHOSPHORIC ACID TRIAMIDE
Safety Data Sheet

Orange plates : 90 3082

Tunnel restriction code (ADR) : E
EAC code : •3Z

- Transport by sea
Tunnel restriction code (ADR) : E
EAC code : •3Z

Special provision (IMDG) : 274, 335, 969
Limited quantities (IMDG) : 5 L
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P001, LP01
Packing provisions (IMDG) : PP1
IBC packing instructions (IMDG) : IBC03
Tank instructions (IMDG) : T4
Tank special provisions (IMDG) : TP2, TP29
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-F
Stowage category (IMDG) : A

- Air transport
PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y964
PCA limited quantity max net quantity (IATA) : 30kgG
PCA packing instructions (IATA) : 964
PCA max net quantity (IATA) : 450L
CAO packing instructions (IATA) : 964
CAO max net quantity (IATA) : 450L
Special provision (IATA) : A97, A158, A197
ERG code (IATA) : 9L

- Inland waterway transport
Not regulated

- Rail transport
Not regulated

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations
No REACH Annex XVII restrictions
HEXAMETHYLPHOSPHORIC ACID TRIAMIDE is not on the REACH Candidate List
HEXAMETHYLPHOSPHORIC ACID TRIAMIDE is not on the REACH Annex XIV List

15.1.2. National regulations
Germany
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV
: Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Denmark
Recommendations Danish Regulation: Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

15.2. Chemical safety assessment
No additional information available

SECTION 16: Other information

Full text of R-, H- and EUH-phrases:

<table>
<thead>
<tr>
<th>Carc. 1A</th>
<th>Carcinogenicity, Category 1A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muta. 1B</td>
<td>Germ cell mutagenicity, Category 1B</td>
</tr>
<tr>
<td>H340</td>
<td>May cause genetic defects</td>
</tr>
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<td>R45</td>
<td>May cause cancer</td>
</tr>
<tr>
<td>R46</td>
<td>May cause heritable genetic damage</td>
</tr>
</tbody>
</table>

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.