

# SAFETY DATA SHEET

## 1. PRODUCT

### 1.1 Product identifiers

Name: Tris(4-trifluoromethylphenyl)phosphine

CAS-No.: 13406-29-6

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

Identified uses : Laboratory chemicals, Manufacture of substances

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin irritation (Category 2), H315


Eye irritation (Category 2A), H319

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

Chronic aquatic toxicity (Category 4), H413

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

|                            |   |
|----------------------------|---|
| Pictogram                  |    |
| Signal word                | Warning   |
| Hazard statement(s)        | H315 Causes skin irritation.<br>H319 Causes serious eye irritation.<br>H335 May cause respiratory irritation.<br>H413 May cause long lasting harmful effects to aquatic life.   |
| Precautionary statement(s) | P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.<br>P264 Wash skin thoroughly after handling.<br>P271 Use only outdoors or in a well-ventilated area.<br>P273 Avoid release to the environment.<br>P280 Wear protective gloves/ eye protection/ face protection.<br>P302 + P352 IF ON SKIN: Wash with plenty of soap and water.<br>P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.<br>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br>P312 Call a POISON CENTER or doctor/ physician if you feel unwell.<br>P321 Specific treatment (see supplemental first aid instructions on this label).<br>P332 + P313 If skin irritation occurs: Get medical advice/ attention.<br>P337 + P313 If eye irritation persists: Get medical advice/ attention.<br>P362 Take off contaminated clothing and wash before reuse.<br>P403 + P233 Store in a well-ventilated place. Keep container tightly closed.<br>P405 Store locked up.<br>P501 Dispose of contents/ container to an approved waste disposal plant. |

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

No data available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Synonyms: Tris(p-trifluoromethylphenyl)phosphine

Formula: C<sub>21</sub>H<sub>12</sub>F<sub>9</sub>P  
CAS-No.: 13406-29-6

## Hazardous components

| Component                                     | Classification   | Concentration |
|---|--|---------------|
| <b>Tris(4-trifluoromethylphenyl)phosphine</b> |  |               |
|   | Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; Aquatic Chronic 4; H315, H319, H335, H413 | -             |

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

|   |
|---|
| <b>General advice</b>   |
| Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.       |
| <b>If inhaled</b>   |
| If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. |
| <b>In case of skin contact</b>  |
| Wash off with soap and plenty of water. Consult a physician.  |
| <b>In case of eye contact</b>   |
| Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.                          |
| <b>If swallowed</b>   |
| Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.             |

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.2 Indication of any immediate medical attention and special treatment needed

no data available

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides, Oxides of phosphorus, Hydrogen fluoride

### 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### 5.4 Further information

no data available

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

|                                   |   |
|-----------------------------------|---|
| Eye/face protection               | Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).  |
| Skin protection                   | Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.        |
| Body Protection                   | impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.  |
| Respiratory protection            | For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). |
| Control of environmental exposure | Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.  |

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

|            |                   |
|------------|-------------------|
| Appearance | Form: solid       |
| Odour      | no data available |

|  |  |
|--|--|
| Odour Threshold                              | no data available                              |
| pH   | no data available                              |
| Melting point/freezing point                 | Melting point/range: 70 - 75 °C (158 - 167 °F) |
| Initial boiling point and boiling range      | no data available                              |
| Flash point                                  | no data available                              |
| Evaporation rate                             | no data available                              |
| Flammability (solid, gas)                    | no data available                              |
| Upper/lower flammability or explosive limits | no data available                              |
| Vapour pressure                              | no data available                              |
| Vapour density                               | no data available                              |
| Relative density                             | no data available                              |
| Water solubility                             | no data available                              |
| Partition coefficient: n-octanol/water       | log Pow: 8.491                                 |
| Auto-ignition temperature                    | no data available                              |
| Decomposition temperature                    | no data available                              |
| Viscosity                                    | no data available                              |
| Explosive properties                         | no data available                              |
| Oxidizing properties                         | no data available                              |

## 9.2 Other safety information

no data available

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Strong oxidizing agents

### 10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

|   |
|---|
| <b>Acute toxicity</b>   |
| no data available<br>Dermal: no data available<br>no data available |
| <b>Skin corrosion/irritation</b>                                    |
| no data available   |
| <b>Serious eye damage/eye irritation</b>                            |
| no data available   |
| <b>Respiratory or skin sensitisation</b>                            |

|   |
|---|
| no data available   |
| <b>Germ cell mutagenicity</b>   |
| no data available   |
| <b>Carcinogenicity</b>  |
| IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.<br>ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.<br>NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.<br>OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. |
| <b>Reproductive toxicity</b>  |
| no data available<br>no data available  |
| <b>Specific target organ toxicity -single exposure</b>  |
| Inhalation - May cause respiratory irritation.  |
| <b>Specific target organ toxicity -repeated exposure</b>  |
| no data available   |
| <b>Aspiration hazard</b>  |
| no data available   |
| <b>Additional Information</b>   |
| RTECS: Not available<br>To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.   |

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

no data available

### 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

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

no data available

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

|  |
|--|
| <b>Product</b>   |
| Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. |
| <b>Contaminated packaging</b>  |
| Dispose of as unused product.  |

## 14. TRANSPORT INFORMATION

**DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

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**15. REGULATORY INFORMATION****SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

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.

**SARA 311/312 Hazards**

Acute Health Hazard

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

| Component                              | CAS-No.    | Revision Date |
|--|------------|---------------|
| Tris(4-trifluoromethylphenyl)phosphine | 13406-29-6 |               |

**New Jersey Right To Know Components**

| Component                              | CAS-No.    | Revision Date |
|--|------------|---------------|
| Tris(4-trifluoromethylphenyl)phosphine | 13406-29-6 |               |

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3.**

Aquatic Chronic Chronic aquatic toxicity

Eye Irrit. Eye irritation

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H413 May cause long lasting harmful effects to aquatic life.

Skin Irrit. Skin irritation

**HMIS Rating**

Health hazard: 2

Chronic Health Hazard:

Flammability: 0

Physical Hazard 0

**NFPA Rating**

Health hazard: 2

Fire Hazard: 0

Reactivity Hazard: 0

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