

1. Identification

GHS PRODUCT IDENTIFIER

Product name: Phosphitylating Reagent

OTHER MEANS OF IDENTIFICATION

Item number: 1002

Catalogue number(s): 1002-YZZZ, where Y=letters A-Z, ZZZ=numbers 000-999]

Brand: Not applicable.

RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE

For laboratory and manufacturing use. Not for drug, household or other use.

SUPPLIER'S DETAILS

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+44 (0) 1698 849911 (Monday to Friday 8 am to 6 pm)

2. Hazard identification

GHS CLASSIFICATION OF THE SUBSTANCE/MIXTURE

Classification according to Regulation (EC) No 1272/2008

Combustible liquid Category 4

Skin corrosion/irritation Category 2

Serious eye damage/eye irritation: Category 2A

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

Signal Word:

Pictogram:



Hazard Statements

H227	Combustible liquid
H315	Causes skin irritation
H319	Causes serious eye irritation

Precautionary StatementsPrevention

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P280	Wear protective gloves, protective clothing and eye protection.
P264	Wash hands thoroughly after handling.

Response

P370 + P378	In case of fire: Use carbon dioxide, dry chemical powder or appropriate foam to extinguish.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before use.
P312	Call a doctor if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/attention.

Storage

P403 + P235	Store in a well-ventilated place. Keep cool.
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Disposal

Dispose of contents/container in accordance with local, regional, national and international regulations.

OTHER HAZARDS

No data available.

3. Composition/information on ingredients

CHEMICAL IDENTITY

2-Cyanoethyl-N,N,N',N'-tetraisopropylphosphorodiamidite

COMMON NAME, SYNONYMS, ETC.

Tetrphos; Bis(diisopropylamino)(2-cyanoethoxy)phosphine

CAS NUMBER AND OTHER UNIQUE IDENTIFIERS

CAS number:	102691-36-1
EC number:	Not available.

IMPURITIES AND STABILIZING ADDITIVES WHICH ARE THEMSELVES CLASSIFIED

None known.

4. First aid measures

DESCRIPTION OF NECESSARY MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Obtain medical attention.

In case of skin contact

Remove any contaminated clothing. Wash off with soap and plenty of water. Obtain medical attention.

In case of eye contact

Flush eyes copiously with water for at least 15 minutes. Use a sterile eye wash if available. Obtain medical attention.

If swallowed

Keep person calm and immobile. Rinse mouth with water if conscious. Never give anything by mouth to an unconscious person. Obtain medical attention.

MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE AND DELAYED

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED, IF NECESSARY

No data available.

5. Fire-fighting measures

SUITABLE (AND UNSUITABLE) EXTINGUISHING MEDIA

Use carbon dioxide, dry chemical powder or appropriate foam. Do not use water.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL (E.G. NATURE OF ANY HAZARDOUS COMBUSTION PRODUCTS)

Possibility of carbon oxides, nitrogen oxides (NOx) or oxides of phosphorus on combustion.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS

Wear mask and protective clothing to prevent contact with skin and eyes. Wear self-contained breathing apparatus if necessary.

6. Accidental release measures

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Wear protective clothing, respirator, chemical safety goggles, rubber gloves and rubber boots. Avoid breathing vapours, mist or gas.

ENVIRONMENTAL PRECAUTIONS

Prevent product from entering drains.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Clean the contaminated area thoroughly with a suitable solvent and absorbent material taking care to avoid breathing fumes. Contain spills using adsorbent barriers where available. Dispose of all cleaning materials with care (see section 13), where possible containing in sealed containers for appropriate disposal.

7. Handling and storage

PRECAUTIONS FOR SAFE HANDLING

Handle with due care and attention. Do not eat, drink or smoke when using this product. In addition to instructions in section 8, wash hands after use and remove any contaminated clothing and protective equipment before entering eating areas. Keep away from sources of ignition.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Containers should be kept sealed under inert gas and safely stored when not in use. Store in a fridge at 4°C.

8. Exposure controls/personal protection

CONTROL PARAMETERS (OCCUPATIONAL EXPOSURE LIMIT VALUES OR BIOLOGICAL LIMIT VALUES)

Contains no substances with occupational exposure limit values.

APPROPRIATE ENGINEERING CONTROLS

General industrial laboratory hygiene practice. Use product within air-extracted fume hood where possible.

INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT

Eye/face protection

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. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection

A laboratory coat must be worn. Arms, legs and feet should be covered with suitable clothing and shoes.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. Physical and chemical properties

Appearance (physical state, colour etc.):	Clear viscous liquid, colourless or pale yellow
Odour:	No data available
Odour threshold:	No data available
pH:	No data available
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	100°C at 0.7 hPa
Flash point:	60°C – closed cup
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Relative density:	0.949 g/cm ³ at 25°C
Solubility(ies):	Dichloromethane, acetonitrile
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available
Empirical formula:	C ₁₅ H ₃₂ N ₃ OP
Molecular weight (g/mol):	301.41

10. Stability and reactivity**REACTIVITY**

No data available.



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CHEMICAL STABILITY

No data available.

POSSIBILITY OF HAZARDOUS REACTIONS

May react with water or alcohols if heated

CONDITIONS TO AVOID (E.G. STATIC DISCHARGE, SHOCK OR VIBRATION)

Exposure to moisture.

INCOMPATIBLE MATERIALS

Alcohols, water, strong bases

HAZARDOUS DECOMPOSITION PRODUCTS

Possibility of carbon oxides, nitrogen oxides (NO_x), or oxides of phosphorus on combustion.

11. Toxicological information

TOXIC EFFECTS

Acute toxicity:	No data available
Skin corrosion/irritation:	No data available
Serious eye damage/irritation:	No data available
Respiratory or skin sensitization:	No data available
Germ cell mutagenicity:	No data available
Carcinogenicity:	No data available
Reproductive toxicity:	No data available
STOT-single exposure:	No data available
STOT-repeated exposure:	No data available
Aspiration hazard:	No data available

INFORMATION ON THE LIKELY ROUTES OF EXPOSURE

Exposure via inhalation, ingestion, skin and eye contact - data on the health effects of such exposure is not available.

SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS

No data available. To the best of our knowledge the chemical, physical and toxicological properties of this substance have not been investigated. Handle with care to avoid all unnecessary exposure and release into the atmosphere. If you feel unwell after using this product then immediately seek medical attention.



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DELAYED AND IMMEDIATE EFFECTS AND ALSO CHRONIC EFFECTS FROM SHORT AND LONG TERM EXPOSURE

No data available.

NUMERICAL MEASURES OF TOXICITY (SUCH AS ACUTE TOXICITY ESTIMATES)

No data available.

12. Ecological information

TOXICITY

No data available.

PERSISTENCE AND DEGRADABILITY

No data available.

BIOACCUMULATIVE POTENTIAL

No data available.

MOBILITY IN THE SOIL

No data available.

OTHER ADVERSE EFFECTS

No data available.

13. Disposal Considerations

DISPOSAL METHODS

For the safety of persons conducting disposal, recycling or reclamation activities, please refer to the information in section 8 of the SDS. Dispose by incineration at high temperature in an approved incinerator fitted with appropriate environmental protection equipment. Contaminated packaging should be treated as product. Dispose of in accordance with all applicable Local, National, State and Federal regulations. Labels should not be removed from containers until they have been thoroughly cleaned in an appropriate manner. Containers should not be treated as domestic waste and disposed of appropriately. Always use an approved disposal company. Do not dispose to drains.

14. Transport information

UN number

Not applicable



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UN proper shipping name

Not dangerous goods

Transport hazard class(es)

Not applicable

Packing group

Not applicable

Environmental hazards

IMDG Marine Pollutant: No

ADR: Non-hazardous by road

RID: Non-hazardous by rail

ADN: Non-hazardous by inland water-ways

IATA: Non-hazardous by air

Special precautions for the user

Not applicable.

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)

Non-hazardous by sea.

15. Regulatory information

This safety datasheet complies with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Fourth revised edition, 2011.

No further safety, health and environmental regulations specific for the product in question are available.

16. Other information

Document Number: SD1002-R03

Approved: 07 July 2016

Last Revision Date: No revisions.

Revision history: No revisions.

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