#### Printing date 07/16/2021

Reviewed on 07/14/2021

## **1** Identification

- · Product name
- Trade name: Tri-i-propylphosphine, 98% (10 wt% in hexanes)
- Item number: 15-6954
- · Details of the supplier of the safety data sheet
- Manufacturer/Supplier: Strem Chemicals, Inc.
   7 Mulliken Way NEWBURYPORT, MA 01950 USA info@strem.com
- Information department: Technical Department
   Emergency telephone number: EMERGENCY: CHEMTREC: +1 (800) 424-9300 During normal opening times: +1 (978) 499-1600

### 2 Hazard(s) identification

· Classification of the substance or mixture

GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.

GHS07

Acute Tox. 4 H302 Harmful if swallowed.

· Label elements

- · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- Hazard pictograms



· Signal word Danger

• Hazard-determining components of labeling:

*Tri-i-propylphosphine, tech. gr., min. 90%* • *Hazard statements* 

H225 Highly flammable liquid and vapor. H302 Harmful if swallowed.

· Precautionary statements

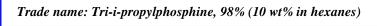
P231Handle under inert gas.P301+P310IF SWALLOWED: Immediately call a POISON CENTER/ doctor.P305+P351+P338If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present<br/>and easy to do. Continue rinsing.P403+P233Store in a well-ventilated place. Keep container tightly closed.P422Store contents under inert gas.P501Dispose of contents/container in accordance with local/regional/national/international<br/>regulations.

(Contd. on page 2)

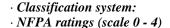
US

Printing date 07/16/2021

Reviewed on 07/14/2021



(Contd. of page 1)









- · Other hazards
- · Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.

### **3** Composition/information on ingredients

- · Chemical characterization: Mixtures
- · Description: Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:		
73513-42-5	hexane	90.0%
6476-36-4	Tri-i-propylphosphine, tech. gr., min. 90%	10.0%

## **4** First-aid measures

- · Description of first aid measures
- General information:
- Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Immediately rinse with water.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- · After swallowing: Immediately call a doctor.
- · Information for doctor:
- · Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed
- No further relevant information available.

## **5** Fire-fighting measures

- · Extinguishing media
- · Suitable extinguishing agents:
- CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- · For safety reasons unsuitable extinguishing agents: Water with full jet
- Special hazards arising from the substance or mixture No further relevant information available.

(Contd. on page 3)

US



(Contd. of page 2)

## Safety Data Sheet according to OSHA HCS

Printing date 07/16/2021

Reviewed on 07/14/2021

Trade name: Tri-i-propylphosphine, 98% (10 wt% in hexanes)

- · Advice for firefighters
- · Protective equipment: No special measures required.

#### 6 Accidental release measures

- · Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away.
- · Environmental precautions:
- Do not allow product to reach sewage system or any water course. Prevent seepage into sewage system, workpits and cellars. Inform respective authorities in case of seepage into water course or sewage system.
- Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- Dispose contaminated material as waste according to item 13.
- Ensure adequate ventilation. · Reference to other sections
- See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.
- · Protective Action Criteria for Chemicals

· PAC-1:

None of the ingredients is listed.

· PAC-2:

None of the ingredients is listed.

· PAC-3:

None of the ingredients is listed.

## 7 Handling and storage

- · Handling: Handle under inert gas. · Precautions for safe handling Ensure good ventilation/exhaustion at the workplace. *Open and handle receptacle with care.* Prevent formation of aerosols.
- · Information about protection against explosions and fires: Keep ignition sources away - Do not smoke. Protect against electrostatic charges. Keep respiratory protective device available.
- · Conditions for safe storage, including any incompatibilities
- · Storage: Store contents under inert gas.
- Requirements to be met by storerooms and receptacles: Store in a cool location.
- · Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep receptacle tightly sealed. Store in cool, dry conditions in well sealed receptacles.
- · Specific end use(s) No further relevant information available.

(Contd. on page 4)

Printing date 07/16/2021

Reviewed on 07/14/2021

Trade name: Tri-i-propylphosphine, 98% (10 wt% in hexanes)

(Contd. of page 3)

#### 8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.
- · Control parameters
- $\cdot$  Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- · Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Personal protective equipment:
- General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Store protective clothing separately.
- Breathing equipment: A NIOSH approved respirator in accordance with 29 CFR 1910.134.
- · Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation • Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- Penetration time of glove material
- The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- Eye protection:



Tightly sealed goggles

## 9 Physical and chemical properties

<ul> <li>Information on basic physic</li> <li>General Information</li> </ul>		
· Appearance:	<b>*</b>	
Form:	Liquid	
Color:	Colorless	
· Odor:	Pungent	
· Odor threshold:	Not determined.	
· pH-value:	Not determined.	
		(Contd. on page 3

Printing date 07/16/2021

Reviewed on 07/14/2021

	(Contd. of page -
Change in condition Melting point/Melting range: Boiling point/Boiling range:	Undetermined. 60 °C (140 °F)
· Flash point:	7 °C (45 °F)
· Flammability (solid, gaseous):	Not determined.
Ignition temperature:	
Decomposition temperature:	Not determined.
• Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product is not explosive. However, formation of explosive air/vapo mixtures are possible.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure:	Not determined.
· Density:	Not determined.
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/wat	t <b>er):</b> Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
VOC content:	0.0 g/l / 0.00 lb/gl
• Other information	No further relevant information available.

## 10 Stability and reactivity

· Reactivity No further relevant information available.

· Chemical stability

• Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· Possibility of hazardous reactions No dangerous reactions known.

· Conditions to avoid No further relevant information available.

· Incompatible materials: No further relevant information available.

· Hazardous decomposition products: No dangerous decomposition products known.

(Contd. on page 6)



Printing date 07/16/2021

Reviewed on 07/14/2021

#### Trade name: Tri-i-propylphosphine, 98% (10 wt% in hexanes)

(Contd. of page 5)

#### **11 Toxicological information**

- · Information on toxicological effects
- Acute toxicity:
- · Primary irritant effect:
- on the skin: No irritant effect.
- on the eye: No irritating effect.
- Sensitization: No sensitizing effects known.
- · Additional toxicological information: Harmful
- · Carcinogenic categories
- · IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

#### · NTP (National Toxicology Program)

None of the ingredients is listed.

#### · OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

## **12** Ecological information

- · Toxicity
- Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes: Not known to be hazardous to water.
- · Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · **vPvB:** Not applicable.
- · Other adverse effects No further relevant information available.

#### **13 Disposal considerations**

- · Waste treatment methods
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packagings:

· Recommendation: Disposal must be made according to official regulations.

· UN-Number		
· DOT, IMDG, IATA	UN1993	
· UN proper shipping name		
$\cdot DOT$	Flammable liquids, n.o.s.	



Printing date 07/16/2021

Reviewed on 07/14/2021

# Trade name: Tri-i-propylphosphine, 98% (10 wt% in hexanes)

	(Contd. of pag
· IMDG, IATA	FLAMMABLE LIQUID, N.O.S.
· Transport hazard class(es)	
DOT	
PAMAAE LOUD	
· Class	3 Flammable liquids
· Label	3
· IMDG, IATA	
· Class	3 Flammable liquids
· Label	3
· Packing group · DOT, IMDG, IATA	Ι
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids
· EMS Number:	<i>F-E</i> , <u><i>S-E</i></u>
· Stowage Category	E
• Transport in bulk according to Annex . MARPOL73/78 and the IBC Code	II of Not applicable.
· Transport/Additional information:	
·DOT	
• Quantity limitations	On passenger aircraft/rail: 1 L
	On cargo aircraft only: 30 L
· UN "Model Regulation":	UN 1993 FLAMMABLE LIQUIDS, N.O.S., 3, I

## **15 Regulatory information**

 $\cdot$  Safety, health and environmental regulations/legislation specific for the substance or mixture  $\cdot$  Sara

• Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

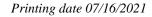
· TSCA (Toxic Substances Control Act):

None of the ingredients is listed.

(Contd. on page 8)

US





Reviewed on 07/14/2021

Trade name: Tri-i-propylphosphine, 98% (10 wt% in hexanes)

(Contd. of page 7)

· Proposition 65	
• Chemicals known to cause cancer:	

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

• *GHS label elements* The product is classified and labeled according to the Globally Harmonized System (GHS). • *Hazard pictograms* 



· Signal word Danger

· Hazard-determining components of labeling: Tri-i-propylphosphine, tech. gr., min. 90% · Hazard statements H225 Highly flammable liquid and vapor. H302 Harmful if swallowed. · Precautionary statements P231 Handle under inert gas. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P422 Store contents under inert gas. P501 Dispose of contents/container in accordance with local/regional/national/international regulations. · Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

## **16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS: Technical Department.

· Contact: Technical Director

· Date of preparation / last revision 07/16/2021 / -

(Contd. on page 9)

## Printing date 07/16/2021

Reviewed on 07/14/2021

## Trade name: Tri-i-propylphosphine, 98% (10 wt% in hexanes)

	(Contd. of page 8)
Abbreviations and acronyms:	
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concernin	ng the International
Carriage of Dangerous Goods by Road)	·
IMDG: International Maritime Code for Dangerous Goods	
DOT: US Department of Transportation	
IATA: International Air Transport Association	
ACGIH: American Conference of Governmental Industrial Hygienists	
EINECS: European Inventory of Existing Commercial Chemical Substances	
ELINCS: European List of Notified Chemical Substances	
CAS: Chemical Abstracts Service (division of the American Chemical Society)	
NFPA: National Fire Protection Association (USA)	
HMIS: Hazardous Materials Identification System (USA)	
VOC: Volatile Organic Compounds (USA, EU)	
PBT: Persistent, Bioaccumulative and Toxic	
vPvB: very Persistent and very Bioaccumulative	
NIOSH: National Institute for Occupational Safety	
OSHA: Occupational Safety & Health	
TLV: Threshold Limit Value	
PEL: Permissible Exposure Limit	
REL: Recommended Exposure Limit	
Flam. Liq. 2: Flammable liquids – Category 2	
Acute Tox. 4: Acute toxicity – Category 4	

