

Rostabil TTDP

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Issue date: 06/21/2023

Version: 1.0



SECTION 1: Identification

1.1. Identification

Product form : Substance
Trade name : Rostabil TTDP
CAS-No. : 77745-66-5
Other means of identification : Phosphorous acid triisotridecyl ester

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

Use of the substance/mixture : Functional Fluids

1.3. Details of the supplier of the safety data sheet

PCC Chemax, Inc.
30 Old Augusta Road
Piedmont, SC 29673 - USA
T 1-864-277-7000
cpatterson@pcc-chemax.com - www.pcc-chemax.com

1.4. Emergency telephone number

Emergency number : 1-800-424-9300 (CHEMTREC)
+1-703-527-3887 Outside the United States

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Skin sensitization, Category 1 H317
Hazardous to the aquatic environment - Chronic Hazard Category 4 H413

Full text of H statements : see section 16

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US) :



GHS07

Signal word (GHS US) : Warning
Hazard statements (GHS US) : H317 - May cause an allergic skin reaction
H413 - May cause long lasting harmful effects to aquatic life
Precautionary statements (GHS US) : P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - If on skin: Wash with plenty of water.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P363 - Wash contaminated clothing before reuse.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Other hazards which do not result in classification : Not applicable.

2.4. Unknown acute toxicity (GHS US)

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SECTION 3: Composition/Information on ingredients

3.1. Substances

Name : Triisotridecyl phosphite
CAS-No. : 77745-66-5

Name	Product identifier	%	GHS US classification
Triisotridecyl phosphite	(CAS-No.) 77745-66-5	100	Skin Sens. 1, H317 Aquatic Chronic 4, H413

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Get medical advice/attention if you feel unwell.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

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

Symptoms/effects after inhalation : None under normal use.
Symptoms/effects after skin contact : May cause an allergic skin reaction.
Symptoms/effects after eye contact : None under normal use.
Symptoms/effects after ingestion : None under normal use.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : If there is a fire close by, use suitable extinguishing agents. Carbon dioxide. Dry powder. Foam. Sand. Water spray.
Unsuitable extinguishing media : Do not use a heavy water stream. Apply aqueous extinguishing media carefully to prevent frothing/steam explosion.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
Reactivity : The product hydrozyles in the presence of water. Thermal decomposition may produce : Carbon oxides (CO, CO₂). Phosphorus oxides.

5.3. Advice for firefighters

Firefighting instructions : Evacuate unnecessary personnel. Only qualified personnel equipped with suitable protective equipment may intervene. Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Wear personal protective equipment.

6.1.1. For non-emergency personnel

Protective equipment : Only qualified personnel equipped with suitable protective equipment may intervene.
Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

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Emergency procedures : Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.
Methods for cleaning up : Contain or absorb spilled liquid with non-combustible material. Stop leak if safe to do so. Prevent runoff from entering drains, sewers or waterways.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of contaminated materials refer to section 13 : "Disposal considerations".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Avoid contact with skin, eyes and clothing.
Precautions for safe handling : Ensure good ventilation of the work station. Use personal protective equipment as required. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Protect from moisture. Store in dry, cool, well-ventilated area. Store in original container.
Incompatible materials : Oxidizing agents. Avoid contact of substance with water.
Storage temperature : 10 – 30 °C
Storage area : Store, if possible, in a cool, well ventilated place away from incompatible materials.
Special rules on packaging : Handle unclean empty containers as full ones.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters and occupational exposure limits

Triisotridecyl phosphite (77745-66-5)

Not applicable

8.2. Exposure controls

Appropriate engineering controls : Provide local exhaust or general room ventilation. Avoid all unnecessary exposure.
Hand protection : Wear suitable gloves resistant to chemical penetration.
Eye protection : Chemical goggles or safety glasses. Face shield.
Skin and body protection : Wear suitable protective clothing.
Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Wear appropriate mask.
Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Clear.
Color : Colorless to light yellow
Odor : characteristic
Odor threshold : No data available
pH : 7.35 @ 5% in 50/50 isopropanol/water
Melting point : < -20 °C
Freezing point : No data available
Boiling point : No data available

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Flash point	: 154 °C (Closed cup)
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Density	: 0.9 g/ml
Solubility	: Insoluble in water. Soluble in acetone. Soluble in chloroform. Water: 0 g/l
Partition coefficient n-octanol/water (Log Pow)	: 16.73
Auto-ignition temperature	: > 213 °C
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 60 – 64 mPa·s
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

The product hydrolyzes in the presence of water. Thermal decomposition may produce : Carbon oxides (CO, CO₂). Phosphorus oxides.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

None under normal use.

10.4. Conditions to avoid

Do not allow water (or moist air) contact with this material.

10.5. Incompatible materials

Oxidizing agent. Water.

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure	: Skin and eye contact
Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)

Rostabil TTDP	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 Inhalation - Rat	> 12.6 mg/l Exposure time: 1h

Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: 7.35 @ 5% in 50/50 isopropanol/water
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: 7.35 @ 5% in 50/50 isopropanol/water
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)

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Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)

Rostabil TTDP	
NOAEL (subchronic,oral,animal/male,90 days)	125 mg/kg body weight rat

Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Symptoms/effects after inhalation	: None under normal use.
Symptoms/effects after skin contact	: May cause an allergic skin reaction.
Symptoms/effects after eye contact	: None under normal use.
Symptoms/effects after ingestion	: None under normal use.

SECTION 12: Ecological information

12.1. Toxicity

Rostabil TTDP	
Ecology - general	This material has not been tested for environmental effects.
Ecology - water	Testing not technically possible: Substance is highly insoluble in water. The product hydrolyses quickly in the presence of water to: isodecanol and phosphorous acid.

12.2. Persistence and degradability

Rostabil TTDP	
Persistence and degradability	Not established. This product hydrolyses quickly in the presence of water. The materials hydrolysis products are readily biodegradable.

12.3. Bioaccumulative potential

Rostabil TTDP	
Partition coefficient n-octanol/water (Log Pow)	16.73
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on global warming	: Not determined
Other information	: Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Additional information	: Clean up even minor leaks or spills if possible without unnecessary risk.
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

Not regulated for transport

Transport by sea

Not regulated

Air transport

Not regulated

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SECTION 15: Regulatory information

15.1. US Federal regulations

Rostabil TTDP

Listed on the United States TSCA (Toxic Substances Control Act) inventory

SARA Section 311/312 Hazard Classes

Health hazard - Respiratory or skin sensitization

Contains chemical(s) subject to TSCA 12b export notification if product is shipped outside the U.S

Triisotridecyl phosphite

CAS-No. 77745-66-5

100%

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Triisotridecyl phosphite (77745-66-5)

Other information

CASRN 77745-66-5 is subject to a Significant New Use Rule (SNUR) under TSCA at Section 5(a)(2), published (40 CFR 721.11416 (PMN P-18-0105)).

15.2. International regulations

National regulations

Rostabil TTDP

Not listed on the Canadian DSL (Domestic Substances List)
Listed on Australian Inventory of Industrial Chemicals (AIIC)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on TECI (Thailand Existing Chemicals Inventory)
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on the NCI (National Chemicals Inventory) of Vietnam

15.3. US State regulations

No additional information available

SECTION 16: Other information

Full text of H-phrases:

H317	May cause an allergic skin reaction
H413	May cause long lasting harmful effects to aquatic life

SDS US (GHS HazCom 2012) - Custom 2020-01

This information is based on our current knowledge and it is intended to describe the product for the purposes of health, safety, and environmental requirements only. No warranty, as to the accuracy, completeness, or adequacy of the information contained herein is either expressed or implied. Users must determine individually, by testing or otherwise, the suitability of this product for their purposes, including mixing with other products. The revision of the document supersedes all those previously issued for the product.