

Rostabil DPDP

Safety Data Sheet

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

Issue date: 04/18/2023

Version: 1.0



SECTION 1: Identification

1.1. Identification

Product form	: Substance
Trade name	: Rostabil DPDP
Chemical name	: Isodecyl diphenyl phosphite
CAS-No.	: 26544-23-0

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

Use of the substance/mixture	: Functional Fluids Stabilisers Antioxidant
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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
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SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Skin sensitization, Category 1	H317
Specific target organ toxicity (repeated exposure) Category 2	H373
Hazardous to the aquatic environment - Chronic Hazard Category 2	H411

Full text of H statements : see section 16

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US)



Signal word (GHS US)

: Warning

Hazard statements (GHS US)

: H317 - May cause an allergic skin reaction
H373 - May cause damage to organs (central nervous system) through prolonged or repeated exposure (oral)
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (GHS US)

: P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
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.
P314 - Get medical advice/attention if you feel unwell.
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.
P391 - Collect spillage.
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

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2.4. Unknown acute toxicity (GHS US)

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name : Isodecyl diphenyl phosphite
CAS-No. : 26544-23-0

Name	Product identifier	%	GHS US classification
Diphenyl isodecyl phosphite	(CAS-No.) 26544-23-0	> 99	Skin Sens. 1, H317 STOT RE 2, H373 Aquatic Chronic 2, H411
Phenol	(CAS-No.) 108-95-2	< 1	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Skin Corr. 1B, H314 Muta. 2, H341 STOT RE 2, H373

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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
First-aid measures after skin contact : Wash with plenty of soap and water. If skin irritation or rash 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 : May cause damage to organs through prolonged or repeated exposure.

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.
Explosion hazard : Closed containers may swell and rupture when exposed to extreme heat. Water spray may be used to cool containers. Avoid spraying of water directly into containers of burning material as frothing may result.
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.

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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 : Evacuate unnecessary personnel. Ventilate spillage area.

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".

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 : Stop leak if safe to do so. Contain or absorb spilled liquid with non-combustible material. 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. Avoid all eye and skin contact and do not breathe vapor and mist. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Hygiene measures : Remove contaminated clothing and shoes. 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

Phenol (108-95-2)		
ACGIH	ACGIH OEL TWA [ppm]	5 ppm
OSHA	OSHA PEL (TWA) [1]	19 mg/m ³
OSHA	OSHA PEL (TWA) [2]	5 ppm
IDLH	IDLH [ppm]	250 ppm
NIOSH	NIOSH REL (TWA)	19 mg/m ³
NIOSH	NIOSH REL TWA [ppm]	5 ppm
NIOSH	NIOSH REL (Ceiling)	60 mg/m ³
NIOSH	NIOSH REL C [ppm]	15.6 ppm

Diphenyl isodecyl phosphite (26544-23-0)

Not applicable

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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	: Colorless to light yellow liquid.
Color	: light yellow
Odor	: characteristic
Odor threshold	: No data available
pH	: 7.09 @ 5% in 50/50 isopropanol/water
Melting point	: < -20 °C
Freezing point	: < -20 °C
Boiling point	: > 200 °C
Flash point	: 130 °C Closed cup
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability	: Not applicable.
Vapor pressure	: 0 Pa [25°C]
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.04 g/cm ³ [25°C]
Solubility	: insoluble in water. Soluble in acetone. Soluble in chloroform. Water: 0 g/l
Partition coefficient n-octanol/water (Log Pow)	: 8.52 [25°C]
Auto-ignition temperature	: > 220 °C
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 13 – 17 mPa·s ambient temperature
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

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Oxidizing agent. Water.

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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 DPDP	
LD50 oral rat	3840 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 Inhalation - Rat	8.4 mg/l Exposure time: 1h

Phenol (108-95-2)	
LD50 oral rat	340 mg/kg
LD50 dermal rabbit	660 mg/kg
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	660 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h

Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: 7.09 @ 5% in 50/50 isopropanol/water
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: 7.09 @ 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)

Phenol (108-95-2)	
IARC group	3 - Not classifiable

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	: May cause damage to organs (central nervous system) through prolonged or repeated exposure (oral).
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	: May cause damage to organs through prolonged or repeated exposure.

SECTION 12: Ecological information

12.1. Toxicity

Rostabil DPDP	
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.

Rostabil DPDP	
LC50 - Fish [1]	1.75 µg/l Exposure time: 96h - Species: Cyprinus carpio - Larvae
EC50 - Crustacea [1]	4200 µg/l Exposure time: 48h - Species: Daphnia magna
EC50 - Crustacea [2]	800 µg/l Exposure time: 48h - Species: Archaeomysis kokuboi - Juvenile
ErC50 algae	0.0611 mg/l Exposure time: 96h - Species: Pseudokirchneriella subcapitata

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Rostabil DPDP	
ErC50 other aquatic plants	94 mg/l Exposure time: 96h - Species: Lemna aequinoctialis
NOEC chronic fish	0.118 mg/l Exposure time: 90 days - Species: Oncorhynchus mykiss
NOEC chronic crustacea	1.5 mg/l Exposure time: 21 days - Species: Daphnia magna
NOEC chronic algae	0.016 mg/l Exposure time: 72h - Species: Hormosira banksii - Gamete
Phenol (108-95-2)	
LC50 - Fish [1]	11.9 – 50.5 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	4.24 – 10.7 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 - Fish [2]	20.5 – 25.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 - Crustacea [2]	10.2 – 15.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistence and degradability

Rostabil DPDP	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Rostabil DPDP	
Partition coefficient n-octanol/water (Log Pow)	8.52 [25°C]
Bioaccumulative potential	Not established.
Phenol (108-95-2)	
BCF - Fish [1]	(no significant bioaccumulation)
Partition coefficient n-octanol/water (Log Pow)	1.5

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on global warming : Not determined

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.
Sewage disposal recommendations : This material and its container must be disposed of in a safe manner.
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)

Transport document description (DOT) : UN3082 Environmentally hazardous substances, liquid, n.o.s. (Reaction products of triphenyl phosphite and isodecanol (1:1)), 9, III
Class (DOT) : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140
Packing group (DOT) : III - Minor Danger
Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)



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Marine pollutant : Yes



Emergency Response Guide (ERG) Number : 171

Other information : No supplementary information available.

Transport by sea

UN-No. (IMDG) : 3082
Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Class (IMDG) : 9 - Miscellaneous dangerous substances and articles
Packing group (IMDG) : III - substances presenting low danger
Transport document description (IMDG) : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Reaction products of triphenyl phosphite and isodecanol (1:1)), 9, III

Air transport

UN-No. (IATA) : 3082
Proper Shipping Name (IATA) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Class (IATA) : 9 - Miscellaneous Dangerous Substances and Articles
Packing group (IATA) : III - Minor Danger
Transport document description (IATA) : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Reaction products of triphenyl phosphite and isodecanol (1:1)), 9, III

SECTION 15: Regulatory information

15.1. US Federal regulations

Rostabil DPDP	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Health hazard - Respiratory or skin sensitization Health hazard - Specific target organ toxicity (single or repeated exposure)

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.

15.2. International regulations

National regulations

Rostabil DPDP
Listed on the Canadian DSL (Domestic Substances List) inventory
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

Phenol (108-95-2)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Minnesota - Hazardous Substance List
U.S. - Massachusetts - Right To Know List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

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SECTION 16: Other information

Full text of H-phrases:

H301	Toxic if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H331	Toxic if inhaled
H341	Suspected of causing genetic defects
H373	May cause damage to organs through prolonged or repeated exposure
H411	Toxic to aquatic life with long lasting effects

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

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