

**SECTION 1. Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

**Product name:**  
DPD TOTAL  
**Product number:**  
94X377002; 35645-66

**1.2 Relevant Identified uses of the substance or mixture and uses advised against**

No further relevant information available.

**Application of the substance / the preparation:**

Reagent for water analysis

**1.3 Details of the supplier of the safety data sheet****Company name:**

THERMO FISHER SCIENTIFIC Inc  
7 Gul Circle, level 2M, Keppel Logistic Building, Singapore 629563,  
Website: www.eutechinst.com  
E-mail :eutech@thermofisher.com

**Telephone number:** (65) 6778 6876.

**Fax number:** (65) 6773 0836.

**1.4 Emergency telephone number**

CHEMTREC 24 HR Emergency : SINGAPORE : 800-101-2201 International : +1 703-741-5970

**SECTION 2. Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

The product is not classified as hazardous according to the CLP regulation.

**Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Not applicable.

**Information concerning particular hazards for human and environment:**

The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" (1999/45/EC) in the latest valid version.

**2.2 Label elements****Labelling according to Regulation (EC) No 1272/2008**

Not applicable.

**Hazard pictograms**

Not applicable.

**Signal word**

Not applicable.

**Hazard statements**




Not applicable.

**SECTION 3. Composition/information on ingredients**

3.1 Substances: not applicable

**3.2 Mixtures**

**Description:** Preparation contains organic compounds.

<b>Dangerous components:</b> CAS: 6283-63-2 EINECS: 228-500-6	N,N-diethylbenzene-1, 4-diammonium sulphate  Xn R21/22;  Xi R36/37/38	≤ 2.5%
	 Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	

**REACH -Pre-registered substances** All components are REACH pre-registered.

**Additional information** For the wording of the listed risk phrases refer to section 16.

**SECTION 4. First aid measures****4.1 Description of first aid measures**

**General information:** Instantly remove any clothing soiled by the product.

**After Inhalation:**

Move victim to fresh air. In case of respiratory difficulties seek medical attention.

**After Skin contact:**

Instantly wash with water and soap and rinse thoroughly.

**After Eye contact:**

Rinse opened eye for several minutes under running water (at least 15 minutes). If symptoms persist, consult doctor

**After swallowing**

Rinse out mouth and then drink 1-2 glasses of water. In case of persistent symptoms consult doctor.

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

After absorption:

Irritations

After swallowing of large amounts:

Thirst

Vomiting

Allergic reaction

Gastric pain

Drop in blood pressure

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

No further relevant information available.

**SECTION 5. Firefighting measures****5.1 Extinguishing media**

**Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

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

Formation of toxic gases is possible during heating or in case of fire.

Iodine compounds

Phosphorus oxides (PxOx)

Dipotassium oxide

Sodium oxide

Hydrogen iodide (HI)

**5.3 Advice for firefighters****Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

**Additional information**

Collect contaminated fire fighting water separately. It must not enter drains.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Ambient fire may liberate hazardous vapours.

**SECTION 6. Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

**6.2 Environmental precautions:**

Do not allow product to reach sewage system or water bodies.

**6.3 Methods and material for containment and cleaning up:**

Collect mechanically.

Ensure adequate ventilation.

Dispose of contaminated material as waste according to item 13.

**6.4 Reference to other sections:**

No dangerous materials are released.

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

**SECTION 7. Handling and storage****7.1 precautions for safe handling**

Prevent formation of dust.

**Information about protection against explosions and fires:**

The product is not flammable.

**7.2 Conditions for safe storage, including any incompatibilities****Storage****Requirements to be met by storerooms and containers:**

Store in cool location.

**Information about storage in one common storage facility:**

Store away from oxidizing agents.

**Further information about storage conditions:**

Protect from heat and direct sunlight.

Store under dry conditions.

Protect from humidity and keep away from water.

This product is hygroscopic.

Protect from the effects of light.

**Recommended storage temperature:**

20 °C +/- 5 °C

**Storage class** 13

**7.3 Specific end use(s)**

No further relevant information available.

**SECTION 8. Exposure controls/personal protection**

**Additional information about design of technical systems:** No further data; see item 7.

**8.1 Control parameters****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 valid during the compilation were used as basis.

**8.2 Exposure controls****Personal protective equipment****General protective and hygienic measures**

Wash hands during breaks and at the end of the work.

Do not eat, drink or smoke while working.

**Breathing equipment:**

Use breathing protection against effects of fumes/dust/aerosol.

**Recommended filter device for short term use:**

Filter P1

**Protection Of hands:**

Preventive skin protection by use of skin-protecting agents is recommended.

**Material Of gloves**

Nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.11$  mm

**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.

Value for the permeation: Level = 1 (<10 min)

**Eye protection:**

Safety glasses

use against the effects of fumes / dust

**Body protection:**

Protective work clothing.

## SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties	
Appearance:	
Form:	Powder
colour:	White
Odour:	Odourless
Odour threshold:	Not determined
pH-value (14 g/l) at 20 °C:	6.3
Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Not applicable
Flash point:	> 100 °C
Inflammability (solid, gaseous)	Not determined
Danger Of explosion:	Product is not explosive.
Critical values for explosion	
Lower:	Not determined
Upper:	Not determined
Density:	Not determined
Relative density	Not determined
Vapour density	Not applicable
Evaporation rate	Not applicable
Solubility in / Miscibility with	
Water:	Soluble
Segregation coefficient (n-octanol/water):	Not determined
Viscosity:	
Dynamic:	Not applicable
kinematic	Not applicable
Solvent content:	
Organic solvents:	0.0 %
Solids content:	100.0%

## 9.2 Other information

No further relevant information available

## SECTION 10. Stability and reactivity

## Reactivity

## Thermal decomposition /conditions to be avoided:

To avoid thermal decomposition do not overheat.

## Conditions to avoid:

No further relevant information available.

## Incompatible materials:

Alkali metals  
Ammonia (NH<sub>3</sub>)  
Halogen compounds  
Peroxides  
Aluminium  
NH<sub>x</sub>  
Oxidizing agents  
Hazardous decomposition products:  
nitrous gases  
carbon monoxide and carbon dioxide  
sodium monoxide  
See chapter 5

## SECTION 11. Toxicological information

## 11.1 Information on toxicological effects

## Acute toxicity:

## LD/LC50 values that are relevant for classification:

Oral	GHS ATE(MIX)	5042 mg/kg (rat)
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6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate		
Oral	LD50	497 mg/kg (rat) (MERCK)

## Primary irritant effect:

## on the skin:

DPD may cause allergic skin reaction.

## on the eye:

Slight irritations possible.

## Sensitization:

Sensitizing effect by skin contact is possible by prolonged/repeated exposure.

Subacute to chronic toxicity: iodide: chronic hypothyroidism

## Additional toxicological information:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

The usual precautionary measures should be adhered to general rules for handling chemicals.

The following applies to aromatic amines in general: systemic effect - methaemoglobinaemia with headache, cardiadysrhythmia, drop in blood pressure, dyspnoea, spasm,

principal symptom: cyanosis (blue discoloration of the blood)

disorder of electrolyte balance.

## CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

No data available

## SECTION 12. Ecological information

## 12.1 Toxicity

## Aquatic toxicity:

No further relevant information available.

## 12.2 Persistence and degradability

No further relevant information available.

## Other information:

Quantitative data on the ecological effect of this are not available.

The following statements refer to the individual components.

**12.3 Bioaccumulative potential**

Depending on the concentration, phosphorus compounds may contribute to the eutrophication of water supplies.

Behaviour in environmental systems:	
6283-63-2 N,N-diethylbenzene-1,4-diammonium sulphate	
log P(o/w)	2.24 (.)

**12.4 Mobility in soil**

No further relevant available.

**Ecotoxicological effects:****Remark:**

Toxic for fish:

Sulphates > 7 g/l

The following applies to iodide in general : biological effect:

Crustaceans Daphnia Magna EC50 = 2.7 mg/l

**Bacterial toxicity:** sulphates toxic > 2.5 g/l

**Additional ecological information:****General notes:**

Water danger class 3 (German Regulation) (Self-assessment acc. VwVwS Annex 4): extremely hazardous for water.

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into soil.

**12.5 Results of PBT and vPvB assessment**

No data available

**12.6 Other adverse effects**

No further relevant information available.

**SECTION 13. Disposal considerations****13.1 Waste treatment methods**

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

European waste catalogue	
16 05 09	discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

**Unleaded packagings:**

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

**Recommended cleaning agent:**

Water, if necessary with cleaning agent.

**SECTION 14. Transport information**

14.1 UN-Number ADR, ADN, IMDG, IATA	Void
14.2 UN proper shipping name ADR, ADN, IMDG, IATA	Void
14.3 Transport hazard class(es) ADR, ADN, IMDG, IATA Class	Void
14.4 Packing group ADR, IMDG, IATA	Void
14.5 Environmental hazards: Marine pollutant:	No
14.6 Special precautions for user	Not applicable.
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	Not applicable.
Transport/Additional information:	Not dangerous according to the above specifications.

**SECTION 15. Regulatory information****15.4 Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations**

**Information about limitation of use:** Not required.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**SECTION 16. Other information**

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Relevant phrases**

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

R21/22 Harmful in contact with skin and if swallowed.

R36/37/38 Irritating to eyes, respiratory system and skin.

**Abbreviations and acronyms:**

**CAS** - Chemical Abstracts Service

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**ATE** - Acute Toxicity Estimate

**POW** - Partition coefficient Octanol:Water

**PBT** - Persistent, Bioaccumulative, Toxic

**vPvB** - very Persistent, very Bioaccumulative

**BCF** - Bioconcentration factor

**IARC** - International Agency for Research on Cancer

**OSHA** - United States Occupational Safety and Health Administration

**NFPA** - United States National Fire Protection Association

**GHS**: Globally Harmonized System of Classification and Labelling of Chemicals

**Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.