

PROPULSE 1/13

 Version 8 / GB
 Revision Date: 07.02.2023

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# SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name PROPULSE Product code (UVP) 84464864

**UFI** 6E80-S0DX-N00H-NC5Q (for Northern Ireland only) (voluntary

notification)

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

**Use** Fungicide

1.3 Details of the supplier of the safety data sheet

**Supplier** Bayer CropScience Limited

230 Cambridge Science Park

Milton Road Cambridge

Cambridgeshire CB4 0WB

United Kingdom

**Telephone** +44(0)1223 226500

Telefax +44(0)1223 426240

Responsible Department Email: gb-bcs-crop-regulatory-affairs@bayer.com

FOR IRELAND & Bayer CropScience Ltd

NORTHERN IRELAND: Bayer Ltd

1st Floor, The Grange Offices The Grange, Brewery Road

Stillorgan Co. Dublin A94 H2K7 Ireland

**Telephone** +353 1 216 3300

1.4 Emergency telephone no.

Emergency telephone no. 00800 1020 3333 (24 hr) (not available on non-contract mobile phones)

For Medical Professionals: You can also contact the relevant NPIS.

For Members of the Public: You can also contact NHS111 (for GB) or your local GP (for Northern

Ireland).

**National Poisons** 

**Information Centre Dublin** 

+353-1-809 2166 (available from 8 am to 10 pm every day)



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#### **SECTION 2: HAZARDS IDENTIFICATION**

#### 2.1 Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Acute aquatic toxicity: Category 1

H400 Very toxic to aquatic life.

Chronic aquatic toxicity: Category 2

H411 Toxic to aquatic life with long lasting effects.

#### 2.2 Label elements

Labelling in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Hazard label for supply/use required.

## Hazardous components which must be listed on the label:

- Fluopyram
- Prothioconazole



Signal word: Warning Hazard statements

H410 Very toxic to aquatic life with long lasting effects.

EUH401 To avoid risks to human health and the environment, comply with the instructions for

use.

EUH208 Contains 1,2-benzisothiazolin-3-one, reaction mass of 5-chloro-2- methyl-2H-isothiazol-

3-one and 2-methyl-2H-isothiazol-3- one (3:1), 2-[2-(1-chlorocyclopropyl)-2-hydroxy-3-phenylpropyl]-2,4-dihydro-3H-1,2,4-triazole-3-thione. May produce an allergic reaction.

# **Precautionary statements**

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P410 Protect from sunlight.

P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or

collection site except for empty clean containers which can be disposed of as non-

hazardous waste.

#### 2.3 Other hazards

No additional hazards known beside those mentioned.

Fluopyram: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB). Prothioconazole: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

Ecological information: The substance/mixture does not contain components considered to

have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission

Regulation (EU) 2018/605 at levels of 0.1% or higher.



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Toxicological information: The substance/mixture does not contain components considered to

have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission

Regulation (EU) 2018/605 at levels of 0.1% or higher.

## **SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

#### 3.2 Mixtures

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#### **Chemical nature**

Suspo-emulsion (SE)

Fluopyram/Prothioconazole 125:125 g/l

#### **Hazardous components**

Hazard statements according to Regulation (EC) No. 1272/2008

Name	CAS-No. /	Classification	Conc. [%]	
	EC-No. / REACH Reg. No.	REGULATION (EC) No 1272/2008		
Fluopyram	658066-35-4 619-797-7	Aquatic Chronic 2, H411	11.77	
Prothioconazole	178928-70-6	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	11.77	
1,2-Benzisothiazol-3(2H)- one	2634-33-5 01-2120761540-60-0003		> 0.005 - < 0.05	
1,2-Propanediol	57-55-6 01-2119456809-23-XXXX	Not classified	> 1.00	

#### **Further information**

4.0 Dannia athianal	2624 22 5	NA Factors 40 (courts)
1,2-Benzisothiazol-	2634-33-5	M-Factor: 10 (acute)
		,
3(2H)-one		
J(Z11)-0116		

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### **Particle characteristics**

This substance/ mixture does not contain nanoforms

## **SECTION 4: FIRST AID MEASURES**

# 4.1 Description of first aid measures

General advice Move out of dangerous area. Remove contaminated clothing

immediately and dispose of safely. Place and transport victim in stable

position (lying sideways).

**Inhalation** Move to fresh air. Keep patient warm and at rest. Call a physician or

poison control center immediately.



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**Skin contact** Wash off thoroughly with plenty of soap and water, if available with

polyethyleneglycol 400, subsequently rinse with water. If symptoms

persist, call a physician.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at

least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation

develops and persists.

**Ingestion** Do NOT induce vomiting. Call a physician or poison control center

immediately. Rinse mouth.

4.2 Most important symptoms and effects, both acute and delayed

**Symptoms** No symptoms known or expected.

4.3 Indication of any immediate medical attention and special treatment needed

**Treatment** Treat symptomatically. Gastric lavage is not normally required.

However, if a significant amount (more than a mouthful) has been ingested, administer activated charcoal and sodium sulphate. There is

no specific antidote.

#### **SECTION 5: FIREFIGHTING MEASURES**

5.1 Extinguishing media

**Suitable** Use water spray, alcohol-resistant foam, dry chemical or carbon

dioxide.

**Unsuitable** High volume water jet

5.3 Advice for firefighters

Special protective equipment for firefighters

In the event of fire and/or explosion do not breathe fumes. Wear self-

contained breathing apparatus and protective suit.

**Further information** Contain the spread of the fire-fighting media. Do not allow run-off from

fire fighting to enter drains or water courses.

# **SECTION 6: ACCIDENTAL RELEASE MEASURES**

# 6.1 Personal precautions, protective equipment and emergency procedures

**Precautions** Avoid contact with spilled product or contaminated surfaces. Use

personal protective equipment.

6.2 Environmental

precautions spillage enters drains leading to sewage works inform local water

company immediately. If spillage enters rivers or watercourses, inform

Do not allow to get into surface water, drains and ground water. If

the Environment Agency (emergency telephone number 0800

807060).



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## 6.3 Methods and materials for containment and cleaning up

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid

binder, universal binder, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations. Collect and transfer the product into a properly labelled and tightly closed

enteiner

container.

6.4 Reference to other

sections

Information regarding safe handling, see section 7.

Information regarding personal protective equipment, see section 8.

Information regarding waste disposal, see section 13.

#### **SECTION 7: HANDLING AND STORAGE**

#### 7.1 Precautions for safe handling

Advice on safe handling No specific precautions required when handling unopened

packs/containers; follow relevant manual handling advice. Ensure

adequate ventilation.

Hygiene measures Avoid contact with skin, eyes and clothing. Keep working clothes

separately. Wash hands before breaks and immediately after handling the product. Remove soiled clothing immediately and clean thoroughly

before using again. Garments that cannot be cleaned must be

destroyed (burnt).

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage

areas and containers

Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container. Store in a place accessible by authorized

persons only. Protect from frost. Keep away from direct sunlight.

Advice on common storage Keep away from food, drink and animal feedingstuffs.

Suitable materials HDPE - steel case

Coex HDPE/EVOH/HDPE - steel case

**7.3 Specific end use(s)** Refer to the label and/or leaflet.

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

# 8.1 Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Fluopyram	658066-35-4	0.34 mg/m3 (TWA)		OES BCS*
Prothioconazole	178928-70-6	1.4 mg/m3 (SK-ABS)		OES BCS*
1,2-Propanediol	57-55-6	10 mg/m3 (TWA)	2007	EH40 WEL
(Particulate.)				
1,2-Propanediol	57-55-6	474 mg/m3/150 ppm (TWA)	2007	EH40 WEL
(Total vapour and particulates.)		. ,		



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\*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

#### 8.2 Exposure controls

Refer to COSHH assessment (Control of Substances Hazardous to Health (Amendment) Regulations 2004). Engineering controls should be used in preference to personal protective equipment wherever practicable. Refer also to COSHH Essentials.

## Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

**Respiratory protection** Respiratory protection is not required under anticipated

circumstances of exposure.

Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's

instructions regarding wearing and maintenance.

Hand protection Please observe the instructions regarding permeability and

breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the

contact time

Wash gloves when contaminated. Dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating,

drinking, smoking or using the toilet.

Material Nitrile rubber
Rate of permeability > 480 min
Glove thickness > 0.4 mm
Protective index Class 6

Directive Protective gloves complying with EN

374.

**Eye protection** Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

**Skin and body protection** Wear standard coveralls and Category 3 Type 6 suit.

If there is a risk of significant exposure, consider a higher protective

type suit.

Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and

should be professionally laundered frequently.

If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully

remove and dispose of as advised by manufacturer.

#### **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

## 9.1 Information on basic physical and chemical properties

Form Liquid

**Colour** white to beige

Odour weak, characteristic



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**Odour Threshold** No data available Melting point/range No data available **Boiling Point** No data available **Flammability** No data available No data available **Upper explosion limit** Lower explosion limit No data available

> 100 °C Flash point

Not relevant; aqueous solution

**Auto-ignition temperature** 405 °C

**Self-accelarating** decomposition temperature

(SADT)

No data available

5.0 - 8.0 (100 %) (23 °C) pН

Viscosity, dynamic No data available Viscosity, kinematic No data available No data available Water solubility

Partition coefficient: n-

octanol/water

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Fluopyram: log Pow: 3.3

Prothioconazole: log Pow: 3.82 (20 °C) (pH 7)

**Surface tension** 37 mN/m (25 °C)

Vapour pressure No data available

**Density** ca. 1.06 g/cm³ (20 °C)

Relative density No data available Relative vapour density No data available

Assessment nano particles This substance/ mixture does not contain nanoforms

Particle size No data available

9.2 Other information

**Explosivity** Not explosive

**Oxidizing properties** No oxidizing properties **Evaporation rate** No data available

Other physico-chemical

properties

Further safety related physical-chemical data are not known.



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#### **SECTION 10: STABILITY AND REACTIVITY**

**10.1 Reactivity** Stable under normal conditions.

10.2 Chemical stability
Stable under recommended storage conditions.

**10.3 Possibility of**No hazardous reactions when stored and handled according to

hazardous reactions prescribed instructions.

**10.4 Conditions to avoid** Extremes of temperature and direct sunlight.

**10.5 Incompatible materials** Store only in the original container.

· · · · ·

decomposition products

10.6 Hazardous

No decomposition products expected under normal conditions of use.

#### **SECTION 11: TOXICOLOGICAL INFORMATION**

## 11.1 Information on hazard classes as defined in regulation (EC) No 1272/2008

Acute oral toxicity LD50 (Rat) > 2,000 mg/kg
Acute inhalation toxicity LC50 (Rat) > 1,633 mg/l

Exposure time: 4 h

Highest attainable concentration.

Acute dermal toxicity LD50 (Rat) > 2,000 mg/kg
Skin corrosion/irritation No skin irritation (Rabbit)
Serious eye damage/eye No eye irritation (Rabbit)

irritation

Respiratory or skin Non-sensitizing. (Mouse)

sensitisation OECD Test Guideline 429, local lymph node assay (LLNA)

#### Assessment STOT Specific target organ toxicity - single exposure

Fluopyram: Based on available data, the classification criteria are not met. Prothioconazole: Based on available data, the classification criteria are not met.

## Assessment STOT Specific target organ toxicity - repeated exposure

Fluopyram did not cause specific target organ toxicity in experimental animal studies. Prothioconazole did not cause specific target organ toxicity in experimental animal studies.

#### **Assessment mutagenicity**

Fluopyram was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Prothioconazole was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

#### **Assessment carcinogenicity**

Fluopyram caused at high dose levels an increased incidence of tumours in rats in the following



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organ(s): Liver.

Fluopyram caused at high dose levels an increased incidence of tumours in mice in the following organ(s): Thyroid.

The tumours seen with Fluopyram were caused through a non-genotoxic mechanism, which is not relevant at low doses. The mechanism that triggers these tumours is not relevant to humans. Prothioconazole was not carcinogenic in lifetime feeding studies in rats and mice.

## Assessment toxicity to reproduction

Fluopyram caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Fluopyram is related to parental toxicity. Prothioconazole caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Prothioconazole is related to parental toxicity.

## Assessment developmental toxicity

Fluopyram caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Fluopyram are related to maternal toxicity.

Prothioconazole caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Prothioconazole are related to maternal toxicity.

# **Aspiration hazard**

Based on available data, the classification criteria are not met.

#### **Further information**

No further toxicological information is available.

## 11.2 Information on other hazards

## **Endocrine disrupting properties**

Assessment The substa

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission

Regulation (EU) 2018/605 at levels of 0.1% or higher.

#### **SECTION 12: ECOLOGICAL INFORMATION**

12.1 Toxicity

**Toxicity to fish** LC50 (Oncorhynchus mykiss (rainbow trout)) 12.8 mg/l

Exposure time: 96 h

Toxicity to aquatic

EC50 (Daphnia magna (Water flea)) 30 mg/l

**invertebrates** Exposure time: 48 h

Growth rate; Exposure time: 72 h

EC10 (Raphidocelis subcapitata (freshwater green alga)) 6.86 mg/l

Growth rate; Exposure time: 72 h

ErC50 (Skeletonema costatum) 0.03278 mg/l

Exposure time: 72 h

The value mentioned relates to the active ingredient prothioconazole.



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EC10 (Skeletonema costatum) 0.01427 mg/l

Growth rate; Exposure time: 72 h

The value mentioned relates to the active ingredient prothioconazole.

12.2 Persistence and degradability

**Biodegradability** Fluopyram:

Not rapidly biodegradable

Prothioconazole:

Not rapidly biodegradable

**Koc** Fluopyram: Koc: 279

Prothioconazole: Koc: 1765

12.3 Bioaccumulative potential

**Bioaccumulation** Fluopyram: Bioconcentration factor (BCF) 18

Does not bioaccumulate.

Prothioconazole: Bioconcentration factor (BCF) 19

Does not bioaccumulate.

12.4 Mobility in soil

**Mobility in soil** Fluopyram: Moderately mobile in soils

Prothioconazole: Slightly mobile in soils

12.5 Results of PBT and vPvB assessment

PBT and vPvB assessment Fluopyram: This substance is not considered to be persistent,

bioaccumulative and toxic (PBT). This substance is not considered to be

very persistent and very bioaccumulative (vPvB).

Prothioconazole: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be

very persistent and very bioaccumulative (vPvB).

12.6 Endocrine disrupting properties

**Assessment** The substance/mixture does not contain components considered to have

endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission

Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Additional ecological

information

No other effects to be mentioned.

## **SECTION 13: DISPOSAL CONSIDERATIONS**

#### 13.1 Waste treatment methods

**Product** In accordance with current regulations and, if necessary, after

consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant. Advice may be obtained from the local waste regulation authority (part

of the Environment Agency in the UK).

Contaminated packaging Small containers (< 10 l or < 10 kg) should be rinsed thoroughly using

an integrated pressure rinsing device, or, by manually rinsing three

times.

Add washings to sprayer at time of filling.



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Dispose of empty and cleaned packaging safely. Follow advice on product label and/or leaflet.

#### **SECTION 14: TRANSPORT INFORMATION**

ADR/RID/ADN

14.1 UN number 3082

14.2 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(PROTHIOCONAZOLE, FLUOPYRAM SOLUTION)

This classification is in principle not valid for carriage by tank vessel on inland waterways. Please refer to the manufacturer for further information.

#### **IMDG**

14.1 UN number **3082** 

14.2 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(PROTHIOCONAZOLE, FLUOPYRAM SOLUTION)

14.3 Transport hazard class(es) 9
14.4 Packaging Group III
14.5 Marine pollutant YES

**IATA** 

14.1 UN number **3082** 

14.2 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(PROTHIOCONAZOLE, FLUOPYRAM SOLUTION)

14.3 Transport hazard class(es)
14.4 Packaging Group
14.5 Environm. Hazardous Mark
YES

**UK 'Carriage' Regulations** 

14.1 UN number **3082** 

14.2 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(PROTHIOCONAZOLE, FLUOPYRAM SOLUTION)

14.3 Transport hazard class(es)
14.4 Packaging Group
14.5 Environm. Hazardous Mark
Emergency action code
9
III
4.5 Environm. Hazardous Mark
3Z

## 14.6 Special precautions for user

See sections 6 to 8 of this Safety Data Sheet.

# 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

No transport in bulk according to the IBC Code.



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#### **SECTION 15: REGULATORY INFORMATION**

# 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

## **UK and Northern Ireland Regulatory References**

This material may be subject to some or all of the following regulations (and any subsequent amendments). Users must ensure that any uses and restrictions as indicated on the label and/or leaflet are followed.

## **Transport**

Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No 1348)

Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997 (SI 1997 No 2367) Air Navigation Dangerous Goods Regulations 2002 (SI 2002 No 2786)

## Supply and Use

Chemical (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No 716) Chemical (Hazard Information and Packaging for Supply) (Northern Ireland) Regulations 2009 Control of Substances Hazardous to Health Regulations 2002 (SI 2002 No 2677) EH40 Occupational Exposure Limits - Table 1 List of approved workplace exposure limits Control of Pesticide Regulations 1986

Dangerous Substances and Explosive Atmospheres Regulations 2002

#### **Waste Treatment**

Environmental Protection Act 1990, Part II

Environmental Protection (Duty of Care) Regulations 1991

The Waste Management Licensing Regulations 1994 (as amended)

Hazardous Waste Regulations 2005 (Replacing Special Waste Regulations 1996 as amended)

Landfill Directive

Regulation on Substances That Deplete the Ozone Layer 1994 (EEC/3093/94)

Water Resources Act 1991

Anti-Pollution Works Regulations 1999

#### **Further information**

WHO-classification: III (Slightly hazardous)

#### **SECTION 16: OTHER INFORMATION**

## Text of the hazard statements mentioned in Section 3

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.H411 Toxic to aquatic life with long lasting effects.

# Abbreviations and acronyms

ADN European Agreement concerning the International Carriage of Dangerous Goods by

Inland Waterways

ADR European Agreement concerning the International Carriage of Dangerous Goods by



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Road

ATE Acute toxicity estimate

CAS-Nr. Chemical Abstracts Service number

Conc. Concentration

EC-No. European community number ECx Effective concentration to x %

EH40 WEL Worker Exposure Limit

EINECS European inventory of existing commercial substances

ELINCS European list of notified chemical substances

EU European Standard European Union

IATA International Air Transport Association

IBC International Code for the Construction and Equipment of Ships Carrying Dangerous

Chemicals in Bulk (IBC Code) Inhibition concentration to x %

IMDG International Maritime Dangerous Goods

LCx Lethal concentration to x %

LDx Lethal dose to x %

ICx

LOEC/LOEL Lowest observed effect concentration/level

MARPOL: International Convention for the prevention of marine pollution from ships

N.O.S. Not otherwise specified

NOEC/NOEL No observed effect concentration/level

OECD Organization for Economic Co-operation and Development

RID Regulations concerning the International Carriage of Dangerous Goods by Rail

SI Statutory Instrument TWA Time weighted average

UN United Nations

WHO World health organisation

The above information is intended to give general health and safety guidance on the storage and transport of the product.

It is not intended to apply to the use of the product for which purposes the product label and any appropriate technical usage literature available should be consulted and any relevant licenses, consents or approvals complied with.

The requirements or recommendations of any relevant site or working procedure, system or policy in force or arising from any risk assessment involving the substance or product should take precedence over any of the guidance contained in this safety data sheet where there is a difference in the information given.

The information provided in this safety data sheet is accurate at the date of publication and will be updated as and when appropriate.

No liability will be accepted for any injury, loss or damage resulting from any failure to take account of information or advice contained in this safety data sheet.

**Reason for Revision:** The following sections have been revised: Section 3: Composition /

Information on Ingredients. Section 8: Exposure Controls / Personal Protection. Section 12. Ecological information. Section 13. Disposal

considerations.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.