

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

SDS #: 081986 EVOLUTION 900 NF 5W-40

Date of the previous version: 2016-12-29 Revision Date: 2017-03-02 Version 4

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE

COMPANY/UNDERTAKING

1.1. Product identifier

Product name EVOLUTION 900 NF 5W-40

Number BUQ Substance/mixture Mixture

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

Identified uses Engine oil.

1.3. Details of the supplier of the safety data sheet

Supplier TOTAL LUBRIFIANTS

562 Avenue du Parc de L'ile 92029 Nanterre Cedex

FRANCE

Tél: +33 (0)1 41 35 40 00 Fax: +33 (0)1 41 35 84 71***

For further information, please contact:

Contact Point HSE***

E-mail Address rm.msds-lubs@total.com***

1.4. Emergency telephone number

Emergency telephone: +44 1235 239670

France - ORFILA (INRS) Tél: +33 (0)1 45 42 59 59

In France - Poison centers: ANGERS: 02 41 48 21 21 BORDEAUX: 05 56 96 40 80 LILLE: 08 00 59 59 59 LYON: 04 72 11 69 11 MARSEILLE: 04 91 75 25 25 NANCY: 03 83 22 50 50

PARIS: 01 40 05 48 48 STRASBOURG: 03 88 37 37 37 TOULOUSE: 05 61 77 74 47

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008 ***



Revision Date: 2017-03-02 Version 4

For the full text of the H-Statements mentioned in this Section, see Section 2.2.***

Classification

The product is not classified as dangerous according to Regulation (EC) No. 1272/2008***

2.2. Label elements

Labelled according to REGULATION (EC) No 1272/2008***

Signal Word

None***

Hazard Statements

None***

Precautionary Statements

None***

Supplemental Hazard Statements

EUH210 - Safety data sheet available on request***

EUH208 - Contains Molybdene dithiocarbamide complex, polysulfur alkyl long chain. May produce an allergic reaction***

2.3. Other hazards

Physical-Chemical Properties Contaminated surfaces will be extremely slippery.***

Environmental properties Should not be released into the environment.***

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixture

Hazardous ingredients

Chemical Name	EC-No	REACH registration No	CAS-No	Weight %	Classification (Reg. 1272/2008)
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based***	276-738-4	01-2119474889-13	72623-87-1	1-<3	Asp. Tox. 1 (H304)
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based***	276-737-9	01-2119474878-16	72623-86-0	1-<3	Asp. Tox. 1 (H304)
Distillates (petroleum), hydrotreated heavy paraffinic***	265-157-1	01-2119484627-25	64742-54-7	1-<3	Asp. Tox. 1 (H304)
bis(nonylphenyl)amine***	253-249-4	01-2119488911-28	36878-20-3	1-<2.5	Aquatic Chronic 4 (H413)
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)***	298-577-9	01-2119543726-33	93819-94-4	1-<2.5	Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Chronic 2 (H411)
Molybdene dithiocarbamide	457-320-2	01-0000019337-66	۸	0.1-<0.25	Skin Sens. 1B (H317)



Revision Date: 2017-03-02 Version 4

complex, polysulfur alkyl			Skin Irrit. 2 (H315)
long chain***			Aquatic Chronic 3 (H412)

Additional information Product containing mineral oil with less than 3% DMSO extract as measured by IP 346.

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

Section 4: FIRST AID MEASURES

4.1. Description of first-aid measures

General advice IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR

EMERGENCY MEDICAL CARE.

Eye contact Rinse thoroughly with plenty of water, also under the eyelids.

Skin contact Remove contaminated clothing and shoes. Wash off with soap and water. Wash

contaminated clothing before reuse.

Inhalation Move to fresh air.

Ingestion Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a

physician or Poison Control Center immediately.

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

Eye contact Not classified. The supplier of some components contained within this formulation has

indicated that the classification as irritant is not required.

Skin contact Not classified. May produce an allergic reaction.

Inhalation Not classified. Inhalation of vapors in high concentration may cause irritation of respiratory

system.

Ingestion Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and

diarrhea.

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

Notes to physician Treat symptomatically.

Section 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media Carbon dioxide (CO 2). ABC powder. Foam. Water spray or fog.

Unsuitable Extinguishing Media Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture



Revision Date: 2017-03-02 Version 4

Special Hazard Incomplete combustion and thermolysis may produce gases of varying toxicity such as

carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may

be highly dangerous if inhaled in confined spaces or at high concentration.

5.3. Advice for fire-fighters

Special protective equipment for

fire-fighters

Wear self-contained breathing apparatus and protective suit.

Other information Cool containers / tanks with water spray. Fire residues and contaminated fire extinguishing

water must be disposed of in accordance with local regulations.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

General Information Do not touch or walk through spilled material. Contaminated surfaces will be extremely

slippery. Use personal protective equipment. Ensure adequate ventilation. Remove all

sources of ignition.

6.2. Environmental precautions

General InformationDo not allow material to contaminate ground water system. Try to prevent the material from

entering drains or water courses. Local authorities should be advised if significant spillages

cannot be contained.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Dam up. Contain spillage, and then collect with non-combustible absorbent material, (e.g.

sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for

disposal.

6.4. Reference to other sections

Personal Protective Equipment See Section 8 for more detail.

Waste treatment See section 13.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling When using, do not eat, drink or smoke. For personal protection see section 8. Use only in

well-ventilated areas. Do not breathe vapors or spray mist. Avoid contact with skin, eyes

and clothing.

Prevention of fire and explosion Take precautionary measures against static discharges: Ground/bond containers, tanks

and transfer/receiving equipment.

Hygiene measuresEnsure the application of strict rules of hygiene by the personnel exposed to the risk of



Revision Date: 2017-03-02 Version 4

contact with the product. Regular cleaning of equipment, work area and clothing is recommended. Wash hands and face before breaks and immediately after handling the product. Do not use abrasives, solvents or fuels. Do not dry hands with rags that have been contaminated with product. Do not put product contaminated rags into workwear pockets.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

Keep away from food, drink and animal feedingstuffs. Keep in a bunded area. Keep container tightly closed. Keep preferably in the original container. Otherwise reproduce all indication of the regulation label on the new container. Do not remove the hazard labels of the containers (even if they are empty). Design the installations in order to avoid accidental emissions of product (due to seal breakage, for example) onto hot casings or electrical

contacts. Protect from frost, heat and sunlight. Protect from moisture.

Materials to Avoid Strong oxidizing agents.

7.3. Specific end uses

Specific use(s) No information available.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits Mineral oil mist:

USA: OSHA (PEL) TWA 5 mg/m3, NIOSH (REL) TWA 5 mg/m3, STEL 10 mg/m3, ACGIH

(TLV) TWA 5 mg/m3 (highly refined)

Legend See section 16

Derived No Effect Level (DNEL)

DNEL Worker (Industrial/Professional)

Chemical Name	Short term, systemic effects	Short term, local effects	Long term, systemic effects	Long term, local effects
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based*** 72623-87-1				5.4 mg/m³/8h (aerosol - inhalation)
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based*** 72623-86-0				5.4 mg/m³/8h (aerosol - inhalation)
Distillates (petroleum), hydrotreated heavy paraffinic*** 64742-54-7				5.4 mg/m³/8h (aerosol - inhalation)
bis(nonylphenyl)amine***			0.62 mg/kg bw/day	



Revision Date: 2017-03-02 Version 4

36878-20-3		Dermal 4.37 mg/m³ Inhalation	
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)*** 93819-94-4		0.58 mg/kg Dermal 8.31 mg/m³ Inhalation	

DNEL Consumer

Chemical Name	Short term, systemic effects	Short term, local effects	Long term, systemic effects	Long term, local effects
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based*** 72623-87-1 Lubricating oils (petroleum), C15-30, hydrotreated neutral				1.2 mg/m³/24h (aerosol - inhalation) 1.2 mg/m³/24h (inhalation -aerosol)
oil-based*** 72623-86-0				
Distillates (petroleum), hydrotreated heavy paraffinic*** 64742-54-7				1.2 mg/m ³ /24h (aerosol - inhalation)
bis(nonylphenyl)amine*** 36878-20-3			0.31 mg/kg bw/day Dermal 1.09 mg/m³ Inhalation 0.31 mg/kg bw/day Oral	
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)*** 93819-94-4			0.29 mg/kg Dermal 2.11 mg/m³ Inhalation 0.24 mg/kg Oral	

Predicted No Effect Concentration (PNEC)

Chemical Name	Water	Sediment	Soil	Air	STP	Oral
Lubricating oils						9.33 mg/kg food
(petroleum),						
C20-50,						
hydrotreated neutral						
oil-based***						
72623-87-1						
bis(nonylphenyl)ami	0.1 mg/l fw	132000 mg/kg dw	263000 mg/kg dw		1 mg/l	
ne***	0.01 mg/l mw	fw				
36878-20-3	1 mg/l or	13200 mg/kg dw				
	·	mw				
Zinc	0.004 mg/l fw	0.0116 mg/kg dw	0.00528 mg/kg		100 mg/l	10.67 mg/kg food
bis[O-(6-methylhept	0.0046 mg/l mw	fw	soil dw		_	
yl)]	0.021 mg/l or	0.00116 mg/kg				
bis[O-(sec-butyl)]		dw mw				
bis(dithiophosphate)						



Revision Date: 2017-03-02 Version 4

93819-94-4			

8.2. Exposure controls

Occupational Exposure Controls

Engineering Measures Apply technical measures to comply with the occupational exposure limits. When working in

confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for

breathing and wear the recommended equipment.

Personal Protective Equipment

General Information If the product is used in mixtures, it is recommended that you contact the appropriate

protective equipment suppliers. These recommendations apply to the product as supplied.

Respiratory protection When workers are facing concentrations above the exposure limit they must use

appropriate certified respirators. Respirator with combination filter for vapour/particulate (EN

14387), Type A/P1. The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.

Eye Protection If splashes are likely to occur, wear:. Safety glasses with side-shields.

Skin and body protection Wear suitable protective clothing. Protective shoes or boots. Long sleeved clothing.

Hand Protection Hydrocarbon-proof gloves: Fluorinated rubber, Nitrile rubber. In case of prolonged contact

with the product, it is recommended to wear gloves complying with EN 420 and EN 374 standards, protecting at least for 480 minutes and having a thickness of 0,38 mm at least. These values are indicative only. The level of protection is provided by the material of the glove, its technical characteristics, its resistance to the chemicals to be handled, the

appropriateness of its use and its replacement frequency.

Environmental exposure controls

General Information The product should not be allowed to enter drains, water courses or the soil.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance limpid***
Color light yellow***
Physical State @20°C liquid***

Odor Characteristic***

Odor Threshold No information available

Property Values Remarks Method

pH Not applicable***
Melting point/range Not applicable***

Boiling point/boiling range

No information available***

Cleveland Open Cup (COC)***

Cleveland Open Cup (COC)***



SDS #: 081986

EVOLUTION 900 NF 5W-40

Revision Date: 2017-03-02 Version 4

Flash point ***

Evaporation rate

Flammability Limits in Air

upper *** Lower ***

Vapor Pressure Vapor density Relative density ***

Density Water solubility

Solubility in other solvents

logPow

Autoignition temperature Decomposition temperature Viscosity, kinematic ***

*** 87*** mm2/s*** Not explosive***

Explosive properties Oxidizing Properties

234*** °C***

453*** °F***

*** 0.853***

853*** kg/m3***

No information available*** No information available

No information available*** No information available***

No information available*** No information available***

@ 15 °C*** @ 15 °C*** Insoluble***

No information available*** No information available*** No information available***

No information available

@ 40 °C *** ISO 3104 ***

Not applicable*** Possibility of hazardous reactions

No information available***

9.2. Other information

Freezing Point No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

No information available. **General Information**

10.2. Chemical stability

Stability Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous Reactions None under normal processing.

10.4. Conditions to Avoid

Conditions to Avoid Heat (temperatures above flash point), sparks, ignition points, flames, static electricity.

10.5. Incompatible materials

Materials to Avoid Strong oxidizing agents.

10.6. Hazardous Decomposition Products

Version FII



Revision Date: 2017-03-02 Version 4

Hazardous Decomposition Products Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity Local effects Product Information

Skin contact . Not classified. May produce an allergic reaction.

Eye contact . Not classified. The supplier of some components contained within this formulation has

indicated that the classification as irritant is not required.

Inhalation . Not classified. Inhalation of vapors in high concentration may cause irritation of

respiratory system.

Ingestion . Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and

diarrhea.

ATEmix (oral) 46,408.00*** mg/kg***
ATEmix (dermal) 31,582.00*** mg/kg***
ATEmix (inhalation-gas) > 20,000.00*** ppm***
ATEmix (inhalation-dust/mist) 53.40*** mg/l***
ATEmix (inhalation-vapor) > 20.00*** mg/l***

Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Lubricating oils (petroleum), C20-50,	LD50 > 5000 mg/kg bw (rat -	LD50 > 5000 mg/kg bw (rabbit -	LC50 (4h) > 5 mg/l (aerosol) (rat -
hydrotreated neutral oil-based***	OECD 401)	OECD 402)	OECD 403)
Lubricating oils (petroleum), C15-30,	LD50 > 5000 mg/kg bw (Rat -	LD50 > 2000 mg/kg (Rabbit -	LD50 (4h) > 5.53 mg/l (Rat -
hydrotreated neutral oil-based***	OECD TG 401)	OECD 402)	OECD 403)
Distillates (petroleum), hydrotreated heavy	LD50 > 5000 mg/kg bw (rat -	LD50 > 5000 mg/kg bw (rabbit -	LC50 (4h) > 5 mg/l (aerosol) (rat -
paraffinic***	OECD 420)	OECD 402)	OECD 403)
bis(nonylphenyl)amine***	LD50 > 5000 mg/kg (Rat - OECD	LD50 > 2000 mg/kg (Rat - OECD	
	401)	402)	
Zinc bis[O-(6-methylheptyl)]	LD50 2600 mg/kg (Rat)	LD50 > 3160 mg/kg (Rabbit -	
bis[O-(sec-butyl)] bis(dithiophosphate)***		OECD 402)	
Molybdene dithiocarbamide complex,	LD50 > 2000 mg/kg (Rat - OECD	LD50 > 2000 mg/kg (Rat - OECD	
polysulfur alkyl long chain***	425)	402)	

Sensitization

Sensitization Not classified as a sensitizer. Contains sensitizer(s). May produce an allergic reaction.

Specific effects

Carcinogenicity This product is not classified carcinogenic. During use in engines, contamination of oil with

low levels of combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil

is thoroughly removed by washing with soap and water.

Mutagenicity This product is not classified as mutagenic.

Reproductive toxicityThis product does not present any known or suspected reproductive hazards.

Repeated Dose Toxicity



Revision Date: 2017-03-02 Version 4

Subchronic toxicity No information available.

Target Organ Effects (STOT)

Other information

Other adverse effects Characteristic skin lesions (pimples) may develop following prolonged and repeated

exposures (contact with contaminated clothing).

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Not classified.

Acute aquatic toxicity - Product Information

No information available.

Acute aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Toxicity to microorganisms
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based*** 72623-87-1	EL50 (48h) > 100 mg (Pseudokirchnerella subcapitata - OECD 201)	EL50 (48h) > 10000 mg/l (Daphnia magna - OECD 202) LL50 (24h) > 10000 mg/l (Gammarus pulex - OECD 202) LL50 (48h) > 10000 mg/l (Gammarus pulex - OECD 202) LL50 (72h) > 10000 mg/l (Gammarus pulex - OECD 202) LL50 (72h) > 10000 mg/l (Gammarus pulex - OECD 202) LL50 (96h) > 10000 mg/l (Gammarus pulex - OECD 202) LL50 (96h) > 10000 mg/l (Gammarus pulex - OECD 202)	LL50 (96h) > 100 mg/l (Oncorhynchus mykiss - OECD 203)	microorganisms
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based*** 72623-86-0		EL50 (48h) > 10000 mg/l (OECD TG 202)	LL50 (96h) > 100 mg/l (OECD TG 203)	
Distillates (petroleum), hydrotreated heavy paraffinic*** 64742-54-7	EL50 (48h) > 100 mg/l (Pseudokirchnerella subcapitata - OECD 201)	EL50 (48h) > 10000 mg/l (Daphnia magna - OECD 202)	LL50 (96h) > 100 mg/l (Oncorhynchus mykiss - OECD 203)	
bis(nonylphenyl)amine*** 36878-20-3	EC50 (72h) > 100 mg/l (Desmodesmus subspicatus - OECD 201)	EC50 (48h) > 100 mg/l (Daphnia magna - OECD 202)	LC50 (96h) > 100 mg/l (Brachyanio rerio - OECD 203)	
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)*** 93819-94-4	Selenastrum capricornutum (OECD 201)	EL50 (48h) 5.4 mg/l Daphnia magna (OECD 202)	Oncorhynchus mykiss (OECD 203)	
Molybdene dithiocarbamide	EC50 (72h) 14 mg/l	EL50 (48h) 50 mg/l (Daphnia	LL50 (96h) 94.8 mg/l	



SDS #: 081986

EVOLUTION 900 NF 5W-40

Revision Date: 2017-03-02 Version 4

complex, polysulfur alkyl long chain*** (Selenastrum capricornutum - OECD 201)	magna - OECD 202)	(Oncorhynchus mykiss - OECD 203)	
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Chronic aquatic toxicity - Product Information

No information available.

Chronic aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Toxicity to microorganisms
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based*** 72623-87-1	NOEL (72h) >= 100 mg/l (Pseudokirchnerella subcapitata - OECD 201)	NOEL (21d) 10 mg/l (Daphnia magna - OECD 211)	NOEL (14/28d) > 1000 mg/l (Oncorhynchus mykiss - QSAR Petrotox) NOEL (96h) > 100 mg/l (Pimephales promelas - OECD 203)	
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based*** 72623-86-0		NOEL (21d) = 10 mg/l (OECD TG 202)	NOELR (14d) > 1000 mg/l (QSAR modelled data)	
Distillates (petroleum), hydrotreated heavy paraffinic*** 64742-54-7		NOEL (21d) 10 mg/l (Daphnia magna - QSAR Petrotox)	NOEL (14/28d) > 1000 mg/l (Oncorhynchus mykiss - QSAR Petrotox)	

Effects on terrestrial organisms

No information available.

12.2. Persistence and degradability

General Information

No information available.

12.3. Bioaccumulative potential

Product Information No information available.

logPow No information available***

Component Information

Component information .	
Chemical Name	log Pow
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based*** - 72623-87-1	4.1
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based*** - 72623-86-0	6.1
Distillates (petroleum), hydrotreated heavy paraffinic*** - 64742-54-7	-
bis(nonylphenyl)amine*** - 36878-20-3	7.7
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)*** - 93819-94-4	0.9
Molybdene dithiocarbamide complex, polysulfur alkyl long chain*** - ^	5.1

12.4. Mobility in soil



Revision Date: 2017-03-02 Version 4

Soil Given its physical and chemical characteristics, the product generally shows low soil

mobility.

Air Loss by evaporation is limited.

Water Insoluble. The product spreads on the surface of the water.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

12.6. Other adverse effects

General Information No information available.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues / Unused Products

Should not be released into the environment. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations. Where possible recycling is preferred to disposal or incineration. After use, this oil must be sent to a licensed waste oil facility. Incorrect disposal of used oil poses a risk to the environment. Mixture with other waste types such as solvents, brake- and cooling liquids is forbidden.

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal.

EWC Waste Disposal No.

The following Waste Codes are only suggestions:. 13 02 05. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: TRANSPORT INFORMATION

ADR/RID Not regulated

IMDG/IMO Not regulated

ICAO/IATA Not regulated

ADN Not regulated

Section 15: REGULATORY INFORMATION

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



Revision Date: 2017-03-02 Version 4

mixture

European Union

Further information

No information available***

15.2. Chemical Safety Assessment

Chemical Safety Assessment No information available

Section 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H411 - Toxic to aquatic life with long lasting effects

H412 - Harmful to aquatic life with long lasting effects

H413 - May cause long lasting harmful effects to aquatic life***

Abbreviations, acronyms

ACGIH = American Conference of Governmental Industrial Hygienists

bw = body weight

bw/day = body weight/day

EC x = Effect Concentration associated with x% response

GLP = Good Laboratory Practice

IARC = International Agency for Research of Cancer

LC50 = 50% Lethal concentration - Concentration of a chemical in air or a chemical in water which causes the death of 50% (one half) of a group of test animals

LD50 = 50% Lethal Dose - Chemical amount, given at once, which causes the death of 50% (one half) of a group of test animals LL = Lethal Loading

NIOSH = National Institute of Occupational Safety and Health

NOAEL = No Observed Adverse Effect Level

NOEC = No Observed Effect Concentration

NOEL = No Observed Effect Level

OECD = Organization for Economic Co-operation and Development

OSHA = Occupational Safety and Health Administration

UVCB = Substance of unknown or Variable composition, Complex reaction products or Biological material

DNEL = Derived No Effect Level

PNEC = Predicted No Effect Concentration

dw = dry weight

fw = fresh water

mw = marine water

or = occasional release

Legend Section 8



Revision Date: 2017-03-02 Version 4

TWA: Time Weight Average STEL: Short Time Exposure Limit PEL: Permissible exposure limit REL: Recommended exposure limit TLV: Threshold Limit Values

+ Sensitizer * Skin designation

** Green Carcinogen

M: Mutagen R: Toxic to reproduction

Revision Date: 2017-03-02

Revision Note *** Indicates updated section.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

This safety data sheet serves to complete but not to replace the technical product sheets. The information contained herein is given in good faith and is accurate to the best of knowledge at the date indicated above. It is understood by the user that any use of the product for purposes other than those for which it was designed entails potential risk. The information given herein in no way dispenses the user from knowing and applying all provisions regulating his activity. The user bears sole liability for the precautions required when using the product. The regulatory texts indicated herein are intended to aid the user to fulfil his obligations. This list is not to be considered complete and exhaustive. It is the user's responsibility to ensure that he is subject to no other obligations than those mentioned.

End of the Safety Data Sheet