

Safety Data Sheet

PULSAR M 15W-40

Revision Date: 3/12/2020
version 2



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

1.1. PRODUCT IDENTIFIER

MIXTURE IDENTIFICATION:

TRADE NAME:

PULSAR M 15W-40

Trade code: 70581

Registration Number N/A

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

RECOMMENDED USE:

Engine oil.

USES ADVISED AGAINST:

This product should not be used for other purposes than those specified without the advice of an expert.

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

COMPANY:

PETRONAS LUBRICANTS ITALY S.P.A.

Via Santena 1

10029 Villastellone (Torino)

Tel: +39.01196131 Fax : +39.0119613313

COMPETENT PERSON FOR SAFETY DATA OF PRODUCT:

Information on the legislation compliance info-regulation.eu@pli-petronas.com

1.4. EMERGENCY TELEPHONE NUMBER

Emergency Answer Service (24h/7d):

+44 1235 239670

SECTION 2: HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Regulation (EC) n. 1272/2008 (CLP)

0 The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).

ADVERSE PHYSICOCHEMICAL, HUMAN HEALTH AND ENVIRONMENTAL EFFECTS:

No other hazards

2.2. LABEL ELEMENTS

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The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).

Special Provisions:

EUH210 Safety data sheet available on request.

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

2.3. OTHER HAZARDS

No PBT Ingredients are present

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. SUBSTANCES

N.A.

3.2. MIXTURES

Severely refined mineral and/or synthetic oils, additives.

Hazardous components within the meaning of the CLP regulation and related classification:

QTY	NAME	IDENT. NUMB.	CLASSIFICATION	REGISTRATION NUMBER
1.5-<2.0 %	Phosphorodithioic acid, mixed O,O-bis (sec-Bu and isoctyl) esters, zinc salts	CAS:93819-94-4 EC:298-577-9	Skin Irrit. 2, H315; Eye Dam. 1, H318; Aquatic Chronic 2, H411	01-2119543726-33-XXXX
0.05-<0.1 %	Phenol, dodecyl-, branched (impurity)	CAS:121158-58-5 EC:310-154-3 Index:604-092-00-9	Eye Dam. 1, H318; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Repr. 1B, H360F; Skin Corr. 1C, H314	01-2119513207-49-XXXX
70.0-<90.0 %	Not classified oils			

H-phrases and list of abbreviations: see heading 16.

SECTION 4: FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

IN CASE OF INGESTION:

Do not induce vomiting to avoid aspiration into the respiratory tracts. Wash out thoroughly the mouth with water. Obtain immediate medical attention.

IN CASE OF EYES CONTACT:

Rinse thoroughly with plenty of water for at least 10 minutes keeping eyelids open. Remove contact lenses if this can be done easily. Obtain medical attention in case of development and persistence of pain

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and redness. In case of contact with hot product, rinse thoroughly with plenty of water to dissipate heat. Obtain immediate medical attention to assess eye conditions and the correct treatment to be practiced.

IN CASE OF SKIN CONTACT:

Remove contaminated clothes and shoes and rinse thoroughly with plenty of water and soap.

IN CASE OF INHALATION:

Expose affected person to fresh air and obtain medical attention if necessary.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Refer to section 11.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Refer to section 4.1.

SECTION 5: FIREFIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

This product has no special fire risk. In case of fire use foam, carbon dioxide, dry chemical powder and water mist.

Cool down with water the containers don't get involved in fire to avoid their possible explosion.

Avoid high pressure water jet. Use water jet only to cool down surfaces exposed to fire.

SUITABLE EXTINGUISHING MEDIA:

Water.

Carbon dioxide (CO₂).

EXTINGUISHING MEDIA WHICH MUST NOT BE USED FOR SAFETY REASONS:

None in particular.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Don't breathe combustion fumes: fire can form harmful compounds.

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

HAZARDOUS COMBUSTION PRODUCTS: Oxides of carbon, compounds of sulphur, phosphorus, nitrogen and products of incomplete combustion.

5.3. ADVICE FOR FIREFIGHTERS

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

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Avoid ingestion of product. Avoid contact with skin and eyes by wearing appropriate protective clothing. Avoid to breathe fumes and aereosols.

Surfaces on which the product has been spilled may become slippery.

Wear personal protection equipment.

See protective measures under point 7 and 8.

6.2. ENVIRONMENTAL PRECAUTIONS

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Avoid flame and/or spark near leak and produced waste. Do not smoke. In case of large spills dike, absorb and shovel up into suitable containers for disposal. Contain small spills with absorbent material. Put dirty material in suitable container. Dispose of dirty material in accordance with local or national regulations.

6.4. REFERENCE TO OTHER SECTIONS

See also section 8 and 13

SECTION 7: HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Avoid ingestion. Avoid frequent and prolonged skin contact and contact with eyes. Provide adequate ventilation to avoid mist or aereosol. Don't smoke or use spare flames; avoid contact with spark or other sources of ignition. Don't work near open container to avoid high concentration of vapours. Don't eat or drink during use.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Store under cover in the original container securely closed away from heat and sources of ignition. Do not store in the open air. Assure a correct ventilation of premises and the control of possible leak. Keep out of flame or spark and avoid the accumulation of electrostatic charges. Keep out of reach of children and away from food and drink.

Storage class (TRGS 510, Germany): 10

7.3. SPECIFIC END USE(S)

Refer to the uses listed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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8.1. CONTROL PARAMETERS

OEL: oil mists - TLV/TWA (8 h) : 5 mg/m³ - TLV/STEL: 10 mg/m³

Predicted No Effect Concentration (PNEC) values

COMPONENT	CAS-NO.	PNEC LIMIT	EXPOSURE ROUTE	EXPOSURE FREQUENCY	REMARK
Phosphorodithioic acid, mixed O,O-bis (sec-Bu and isooctyl) esters, zinc salts	93819-94-4	0.004	Fresh Water		
		0.005	Soil		
		0.012	Air		
		0.001	Fresh Water		

Derived No Effect Level (DNEL) values

COMPONENT	CAS-NO.	WORKER INDUSTRIAL	WORKER PROFESSIONAL	CONSUMER	EXPOSURE ROUTE	EXPOSURE FREQUENCY	REMARK
Phosphorodithioic acid, mixed O,O-bis (sec-Bu and isooctyl) esters, zinc salts	93819-94-4	8.310			Human Inhalation	Long Term, systemic effects	
		0.580			Human Dermal	Long Term, systemic effects	
				0.290	Human Dermal	Long Term, systemic effects	
				0.240	Human Oral	Long Term, systemic effects	

8.2. EXPOSURE CONTROLS

TECHNICAL PRECAUTIONS:

Avoid production and diffusion of mist and aerosol with utilization of localized ventilation/aspiration or other required precautions. Adopt all required precaution to avoid product immission in environment (e.g., blasting systems, catch basins, ...).

EYE PROTECTION:

Chemical goggles and face shield in case of oil splashes.

PROTECTION FOR SKIN:

Wear suitable protective clothing (for further information, refer to CEN-EN 14605); change it immediately in case of large contamination and wash it before subsequent use.

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Practice reasonable personal cleanliness.

PROTECTION FOR HANDS:

Wear suitable gloves (i.e. neoprene, nitrile). Gloves should be changed when they show wear. The kind of gloves and the term of use must be decided from employer with regard to processing and to allow for DPI legislation and glove producer's indications. Wear gloves only with clean hands.

RESPIRATORY PROTECTION:

None required under normal conditions of use. Use approved full face respirator with organic vapour filter cartridge if the recommended exposure limits are exceeded.

ENVIRONMENTAL EXPOSURE CONTROLS:

Refer to technical precautions and also to sections 6.2, 6.3, 7.2, 12 and 13.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

CHEMICAL-PHYSICAL PROPERTY	VALUE	METHOD
PHYSICAL STATE	LIQUID	
APPEARANCE AND COLOUR:	VISCOUS 4,50012,	
ODOUR:	NOT RELEVANT	
ODOUR THRESHOLD:	NOT RELEVANT	
PH:	N.A.	
MELTING POINT / FREEZING POINT:	N.A.	
INITIAL BOILING POINT AND BOILING RANGE:	300 °C (572 °F)	(ASTM D1120)
FLASH POINT:	220 °C (428 °F)	(ASTM D92)
EVAPORATION RATE:	N.A.	
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:	N.A.	
VAPOUR DENSITY:	N.A.	
VAPOUR PRESSURE:	N.A.	
DENSITY	0.885 g/cm ³	(ASTM D4052)
SOLUBILITY IN WATER:	IMMISCIBLE	
SOLUBILITY IN OIL:	N.A.	
PARTITION COEFFICIENT (N-OCTANOL/WATER):	N.A.	
AUTO-IGNITION TEMPERATURE:	N.A.	
DECOMPOSITION TEMPERATURE:	N.A.	
KINEMATIC VISCOSITY AT 100°C	14.9 cSt	(ASTM D445)
KINEMATIC VISCOSITY AT 40°C	>20.5 cSt	(ASTM D445)
EXPLOSIVE PROPERTIES	N.A.	
OXIDIZING PROPERTIES	N.A.	
FLAMMABILITY (SOLID, GAS)	N.A.	

9.2. OTHER INFORMATION

CHEMICAL-PHYSICAL PROPERTY	VALUE	METHOD
SUBSTANCE GROUPS RELEVANT PROPERTIES	N.A.	
MISCIBILITY	N.A.	

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CONDUCTIVITY	N.A.
FREEZING POINT:	N.A.
POUR POINT	N.A.
DROPPING POINT	N.A.

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY

Read carefully all information provided in other sections of heading 10.

10.2. CHEMICAL STABILITY

The product is stable under normal conditions of use.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

Not expected under normal conditions of use.

10.4. CONDITIONS TO AVOID

This product must be kept far from heat sources. In any case, avoid exposing product to temperatures above the flash point.

10.5. INCOMPATIBLE MATERIALS

Strong oxidizing agents, hard acids and bases.

10.6. HAZARDOUS DECOMPOSITION PRODUCTS

Oxides of carbon, compounds of sulphur, phosphorus, nitrogen and hydrogen sulfide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY:

This product is not classified in this hazard class.

Unlike to cause harm if accidentally swallowed in small doses, though ingestion of large quantities may cause gastro-intestinal effects.

SKIN CORROSION OR IRRITATION:

This product is not classified in this hazard class, but prolonged or repeated skin contact sometimes may cause irritations and dermatitis.

SERIOUS EYE DAMAGE OR EYE IRRITATION:

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This product is not classified in this hazard class, but direct contact may cause slight irritations.

RESPIRATORY SENSITIZATION:

This product is not classified in this hazard class.

SKIN SENSITIZATION:

This product is not classified in this hazard class.

GERM CELL MUTAGENICITY:

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

CARCINOGENICITY:

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

REPRODUCTIVE TOXICITY:

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

SPECIFIC TARGET ORGAN TOXICITY (STOT) – SINGLE EXPOSURE:

This product is not classified in this hazard class, but inhalation of mists and vapours generated at elevated temperatures sometimes may cause respiratory irritation.

SPECIFIC TARGET ORGAN TOXICITY (STOT) – REPEATED EXPOSURE:

This product is not classified in this hazard class.

ASPIRATION HAZARD:

This product is not classified in this hazard class.

Toxicological Information of the Preparation

There is no toxicological data available on the mixture. Consider the individual concentration of each component to assess toxicological effects resulting from exposure to the mixture.

Toxicological information on main components of the mixture:

Phosphorodithioic acid, mixed O,O-bis (sec-Bu and isoocetyl) esters, zinc salts a) acute toxicity LD50 Oral Rat = 2600.00000 mg/kg

LC50 Inhalation Rat > 2.00000 mg/l 1h
LD50 Skin Rabbit > 3160.00000 mg/kg

Phenol, dodecyl-, branched (impurity) g) reproductive toxicity No Observed Adverse Effect Level Oral Rat = 15.00000 mg/kg 24h two-generation study

If not differently specified, the information required in Regulation (EU)2015/830 listed below must be considered as N.A.

- a) acute toxicity
- b) skin corrosion/irritation

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c) serious eye
damage/irritation

d) respiratory or skin
sensitisation

e) germ cell mutagenicity

f) carcinogenicity

g) reproductive toxicity

h) STOT-single exposure

Toxicological kinetics,
metabolism and distribution
information

i) STOT-repeated exposure

j) aspiration hazard

SECTION 12: ECOLOGICAL INFORMATION

12.1. TOXICITY

Eco-Toxicological Information:

This product is not classified dangerous for the environment.

List of Eco-Toxicological properties of the components

COMPONENT	IDENT. NUMB.	ECOTOX DATA
Phosphorodithioic acid, mixed O,O-bis (sec-Bu and isooctyl) esters, zinc salts	CAS: 93819- 94-4 - INDEX: 298- 577-9	b) Aquatic chronic toxicity : LC50 Fish Rainbow trout = 4.50000 mg/L 96h
		b) Aquatic chronic toxicity : EL50 Daphnia Water flea = 5.40000 mg/L 48h
		b) Aquatic chronic toxicity : EC50 Algae Green algae = 2.10000 mg/L 96h

12.2. PERSISTENCE AND DEGRADABILITY

Data on biodegradability of product are not available.

N.A.

12.3. BIOACCUMULATIVE POTENTIAL

Not available.

12.4. MOBILITY IN SOIL

As the dispersion in the environment may result in contamination of environmental matrix (soil, subsoil,

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surface water and groundwater), do not release in the environment.

N.A.

12.5. RESULTS OF PBT AND VPVB ASSESSMENT

Not available.

12.6. OTHER ADVERSE EFFECTS

This material contains one or more components that have a branched alkylphenol impurity, highly toxic to aquatic organisms. The components containing the impurity have been tested and they are not toxic to aquatic organisms. Therefore, the alkylphenol impurity should not be used in the summation approach to classify the product for aquatic toxicity.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. WASTE TREATMENT METHODS

Prevent contamination of soil, drains and surface waters. Do not discharge in sewers, tunnels or water courses. Dispose in accordance with local or national regulations via authorised person/licensed waste disposal contractor.

The used product is to be considered a special waste to be classified in accordance to Directive 2008/98/EC on waste and related legislation.

Recover if possible. In so doing, comply with the local and national regulations currently in force.

SECTION 14: TRANSPORT INFORMATION

14.1. UN NUMBER

N/A

14.2. UN PROPER SHIPPING NAME

ADR-Shipping Name: N/A

IATA-Technical name: N/A

IMDG-Technical name: N/A

14.3. TRANSPORT HAZARD CLASS(ES)

ADR-Class: N/A

IATA-Class: N/A

IMDG-Class: N/A

14.4. PACKING GROUP

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ADR-Packing Group: N/A
IATA-Packing group: N/A
IMDG-Packing group: N/A

14.5. ENVIRONMENTAL HAZARDS

Toxic ingredients quantity: 0.00
Very toxic ingredients quantity: 0.00
Marine pollutant: No
Environmental Pollutant: No

14.6. SPECIAL PRECAUTIONS FOR USER

Road and Rail (ADR-RID):

ADR-Label: N/A
ADR - Hazard identification number: N/A
ADR-Special Provisions: N/A
ADR-Transport category (Tunnel restriction code): N/A

Air (IATA):

IATA-Passenger Aircraft: N/A
IATA-Cargo Aircraft: N/A
IATA-Label: N/A
IATA-Subsidiary hazards: N/A
IATA-Erg: N/A
IATA-Special Provisions: N/A

Sea (IMDG):

IMDG-Stowage Code: N/A
IMDG-Stowage Note: N/A
IMDG-Subsidiary hazards: N/A
IMDG-Special Provisions: N/A
IMDG-Page: N/A
IMDG-Label: N/A
IMDG-EMS: N/A
IMDG-MFAG: N/A

14.7. TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL AND THE IBC CODE

N.A.

SECTION 15: REGULATORY INFORMATION

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Regulation (EC) No 1272/2008, with all National and European related legislations - on classification,

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labelling and packaging of substances and mixtures - and following adjustments to technical and scientific progress.

Regulation (EC) No 790/2009 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

Regulation (EC) No 1907/2006, with all National and European related legislations - concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Regulation (EU) No 830/2015 amending Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Directives 89/391/EC, 89/654/EC, 89/655/EC, 89/656/EC, 90/269/EC, 90/270/EC, 90/394/EC, 90/679/EC and all following updates, together with its national implementation about improvement of worker safety and health.

Directives 98/24/EC and all following updates, together with its national implementation about protection of worker safety and health against chemical agent risks.

Directive 1991/156/EC and all following updates, together with national waste legislation

EC directives and national environment protection legislation (air, water and soil)

Regulation 648/2004/EC on detergents

Directive 2012/18/UE, together with its national realization, on the control of major-accident hazards involving dangerous substances.

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Regulation (EU) n. 2015/1221 (ATP 7 CLP)

Regulation (EU) n. 2016/918 (ATP 8 CLP)

Regulation (EU) n. 2016/1179 (ATP 9 CLP)

Regulation (EU) n. 2017/776 (ATP 10 CLP)

Regulation (EU) n. 2018/669 (ATP 11 CLP)

Regulation (EU) n. 1221/2015 (ATP 7 CLP)

Regulation (EU) n. 918/2016 (ATP 8 CLP)

Regulation (EU) n. 1179/2016 (ATP 9 CLP)

Regulation (EU) n. 776/2017 (ATP 10 CLP)

PROVISIONS RELATED TO DIRECTIVE EU 2012/18 (SEVESO III):

N.A.

GERMAN WATER HAZARD CLASS.

N.A.

RESTRICTIONS RELATED TO THE PRODUCT OR THE SUBSTANCES CONTAINED ACCORDING TO ANNEX XVII REGULATION (EC) 1907/2006 (REACH) AND SUBSEQUENT MODIFICATIONS:

RESTRICTIONS RELATED TO THE PRODUCT: None

RESTRICTIONS RELATED TO THE SUBSTANCES CONTAINED: 30

VOLATILE ORGANIC COMPOUNDS - VOCS = N.A.

15.2. CHEMICAL SAFETY ASSESSMENT

No Chemical Safety Assessment has been carried out for the mixture.

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SECTION 16: OTHER INFORMATION

Sheet complies with the criteria of Regulation (EU) No. 830/2015 as well as with Regulation (EC) No. 1272/2008 and following adjustments.

This document was prepared by a competent person who has received appropriate training.

This product must not be used in applications other than recommended without first seeking the advice of the Technical Department.

This SDS cancels and replaces any preceding release.

This product must be stored, handled and used according to correct industrial hygienic practices and in compliance with laws in force.

The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be considered as any guarantee of specific properties.

Caption about heading 3, H-statements:

CODE	DESCRIPTION
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H360F	May damage fertility.
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.

CODE	HAZARD CLASS AND HAZARD CATEGORY	DESCRIPTION
3.2/1C	Skin Corr. 1C	Skin corrosion, Category 1C
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/1	Eye Dam. 1	Serious eye damage, Category 1
3.7/1B	Repr. 1B	Reproductive toxicity, Category 1B
4.1/A1	Aquatic Acute 1	Acute aquatic hazard, category 1
4.1/C1	Aquatic Chronic 1	Chronic (long term) aquatic hazard, category 1
4.1/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).

Classification procedure : Calculation method

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

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BOD: Biochemical Oxygen Demand
CAS: Chemical Abstracts Service (division of the American Chemical Society).
CAV: Poison Center
CE: European Community
CLP: Classification, Labeling, Packaging.
CMR: Carcinogenic, Mutagenic and Reprotoxic
COD: Chemical Oxygen Demand
COV: Volatile Organic Compound
CSA: Chemical Safety Assessment
CSR: Chemical Safety Report
DMEL: Derived Minimal Effect Level
DNEL: Derived No Effect Level.
DPD: Dangerous Preparations Directive
DSD: Dangerous Substances Directive
EC50: Half Maximal Effective Concentration
ECHA: European Chemicals Agency
EINECS: European Inventory of Existing Commercial Chemical Substances.
ES: Exposure Scenario
GefStoffVO: Ordinance on Hazardous Substances, Germany.
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
IC50: half maximal inhibitory concentration
ICAO: International Civil Aviation Organization.
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG: International Maritime Code for Dangerous Goods.
INCI: International Nomenclature of Cosmetic Ingredients.
IRCCS: Scientific Institute for Research, Hospitalization and Health Care
KAFH: Keep away from heat
KSt: Explosion coefficient.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
LDLo: Leathal Dose Low
N.A.: Not Applicable
N/A: Not Applicable
N/D: Not defined/ Not available
NA: Not available
NIOSH: National Institute for Occupational Safety and Health
NOAEL: No Observed Adverse Effect Level
OSHA: Occupational Safety and Health Administration.
PBT: Persistent, Bioaccumulative and Toxic
PGK: Packaging Instruction
PNEC: Predicted No Effect Concentration.
PSG: Passengers
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.

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STEL: Short Term Exposure limit.

STOT: Specific Target Organ Toxicity.

TLV: Threshold Limiting Value.

TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).

vPvB: Very Persistent, Very Bioaccumulative.

WGK: German Water Hazard Class.

Paragraphs modified from the previous revision:

- SECTION 1: Identification of the substance/mixture and of the company/undertaking
- SECTION 2: Hazards identification
- SECTION 3: Composition/information on ingredients
- SECTION 7: Handling and storage
- SECTION 8: Exposure controls/personal protection
- SECTION 11: Toxicological information
- SECTION 12: Ecological information
- SECTION 14: Transport information
- SECTION 15: Regulatory information
- SECTION 16: Other information