Safety Data Sheet
PETRONAS TUTELA AXLE 300 LS 80W-90.
Revision Date: 10/9/2024
version 2

GHS PRODUCT IDENTIFIER

MIXTURE IDENTIFICATION:
TRADE NAME:
PETRONAS TUTELA AXLE 300 LS 80W-90.
TRADE CODE: 76629

RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE

RECOMMENDED USE:
Lubricant for transmission system.
USES ADVISED AGAINST:
This product should not be used for other purposes than those specified without the advice of an expert.

SUPPLIER'S DETAILS

COMPANY:
PLI AUSTRALIA PTY. LIMITED
Suite 2, Level 6,
85 George Street
Parramatta, NSW 2150
Australia
Telephone: 001139 1800 834 081

COMPETENT PERSON FOR SAFETY DATA OF PRODUCT:
Information on the legislation compliance info-regulation.eu@pli-petronas.com

EMERGENCY PHONE NUMBER

Emergency Answer Service (24h/7d):
+61 2 8014 4558
18000 74234 (access from Australia only)

Section 2: Hazard(s) identification

CLASSIFICATION OF THE HAZARDOUS CHEMICAL

The product is not classified as dangerous according to GHS.
ADVERSE PHYSICOCHEMICAL, HUMAN HEALTH AND ENVIRONMENTAL EFFECTS:
No other hazards

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

The product is not classified as dangerous according to GHS.

OTHER HAZARDS WHICH DO NOT RESULT IN A CLASSIFICATION

Other Hazards: No other hazards

Section 3: Composition and information on ingredients

SUBSTANCES

no data available

MIXTURES

Severely refined mineral and/or synthetic oils, additives.

Hazardous components within the meaning of the "GHS" regulation and related classification:

QTY	NAME	IDENT. NUMB.	CLASSIFICATION	REGISTRATION NUMBER
1.5-<2.0 %	Reaction products of 4-methyl-2- pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl	CAS: Confidential EC:931-384-6	Acute Tox. 4, H302; Eye Irrit. 2A, H319; Skin Sens. 1, H317; Aquatic Chronic 2, H411; Aquatic Acute 2, H401	01-2119493620-38-XXXX
1.0-<1.5 %	Reaction Products of alcohols, C14-18, C18 unsat., esterified with phosphorus pentoxide and salted with amines, C12-14,-tert-alkyl	CAS: 1471315-74-8 EC:939-591-3	Aquatic Chronic 3, H412	01-2119978530-33-XXXX
0.5-<0.95 %	(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	CAS: 1213789-63-9 EC:627-034-4	Acute Tox. 4, H302; Skin Corr. 1B, H314; Eye Dam. 1, H318; STOT SE 3, H335; STOT RE 2, H373; Asp. Tox. 1, H304; Aquatic Acute 1, H400; Aquatic Chronic 1, H410, M-Chronic:10, M-Acute:10	01-2119473797-19-XXXX
0.1-<0.25 %	Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs	CAS: Confidential EC:939-460-0	Flam. Liq. 3, H226; Skin Irrit. 2, H315; Skin Sens. 1B, H317; Eye Dam. 1, H318; Aquatic Acute 3, H402; Aquatic Chronic 3, H412	01-2119971727-23-XXXX
70.0-<90.0 %	Not classified oils			

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

Section 4: First-aid measures

DESCRIPTION OF NECESSARY 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 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.

SYMPTOMS CAUSED BY EXPOSURE

Refer to section 11.

MEDICAL ATTENTION AND SPECIAL TREATMENT

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 (CO_2).

EXTINGUISHING MEDIA WHICH MUST NOT BE USED FOR SAFETY REASONS:

None in particular.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL

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.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS

Use suitable breathing apparatus .
Move undamaged containers from immediate hazard area if it can be done safely.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

HAZCHEM CODE/EMERGENCY ACTION CODE

N.A.

Section 6: Accidental release measures

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

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.

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.

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

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.

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

Section 8: Exposure controls and personal protection

CONTROL PARAMETERS – EXPOSURE STANDARDS, BIOLOGICAL MONITORING

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

Predicted No Effect Concentration (PNEC) values

	PNEC LIMIT	EXPOSURE ROUTE	EXPOSURE FREQUENCY	REMARK
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines CAS: 1213789-63-9	0.376 mg/kg	Fresh Water		
	3.76 mg/kg	Marine water sediments		
	10 mg/kg	Soil (agricultural)		

Derived No Effect Level (DNEL) values

	WORKER INDUSTRY	WORKER PROFESSIONAL	CONSUMER	EXPOSURE ROUTE	EXPOSURE FREQUENCY	REMARK
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines CAS: 1213789-63-9	1 mg/m3			Human Inhalation	Long Term, local effects	Skin irritation
			0.04 mg/kg	Human Oral	Long Term, systemic effects	Repeated dose toxicity

0.38 mg/m3		Human Inhalation	Long Term, systemic effects	Repeated dose toxicity
	0.035 mg/m3	Human Inhalation	Long Term, systemic effects	
1 mg/m3		Human Inhalation	Short Term, local effects	Skin irritation

APPROPRIATE ENGINEERING CONTROLS

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, ...).

INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT (PPE)

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.

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

Physical State Liquid

Color: amber

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

CHEMICAL-PHYSICAL PROPERTY	VALUE	METHOD
PHYSICAL STATE	LIQUID	
APPEARANCE AND COLOUR:	VISCOUS AMBER	
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 D2887)

FLASH POINT:	204 °C (399 °F)	(ASTM D92)
EVAPORATION RATE:	N.A.	
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:	N.A.	
VAPOUR DENSITY:	N.A.	
VAPOUR PRESSURE:	N.A.	
DENSITY	0.9024 g/cm3	(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	14.04 cSt	(ASTM D445)
KINEMATIC VISCOSITY AT 40°C	135.9 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.	
CONDUCTIVITY	N.A.	
FREEZING POINT:	N.A.	
POUR POINT	N.A.	
DROPPING POINT	N.A.	

Lower and upper explosion limit/flammability limits:

Kinematic viscosity: > 20,5 mm2/sec (40 °C) mm2/s

Particle characteristics:

Section 10: Stability and reactivity

REACTIVITY

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

CHEMICAL STABILITY

The product is stable under normal conditions of use.

POSSIBILITY OF HAZARDOUS REACTIONS

Not expected under normal conditions of use.

CONDITIONS TO AVOID

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

INCOMPATIBLE MATERIALS

Strong oxidizing agents, hard acids and bases.

HAZARDOUS DECOMPOSITION PRODUCTS

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

Section 11: Toxicological information

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:
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 the available data, the product is not classified under this hazard class.

CARCINOGENICITY:
Based on the available data, the product is not classified under this hazard class.

REPRODUCTIVE TOXICITY:
Based on the available data, the product is not classified under this hazard class.

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 on main components of the mixture:	No data available

Section 12: Ecological information

ECOTOXICITY

Eco-Toxicological Information:

This product is not classified dangerous for the environment.

List of Eco-Toxicological properties of the product

COMPONENT	ECOTOX DATA
PETRONAS TUTELA AXLE 300 LS 80W-90.	b) Aquatic chronic toxicity : EC50 Daphnia > 100 mg/L OECD 211 - 21 days - Based on available data, the classification criteria are not met b) Aquatic chronic toxicity : NOEC Daphnia 100 mg/L OECD 211 - 21 days - Based on available data, the classification criteria are not met Ecotoxicity test performed on mixtures containing the additive package at treat rates used in this product. Using read-across/bridging principles, the data - provided by additive supplier - indicate that this product would not be expected to be classified under the relevant classification and labelling schemes: CLP (Reg.UE 1272/2008) and transport requirements.

List of Eco-Toxicological properties of the components

COMPONENT	IDENT. NUMB.	ECOTOX DATA
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	CAS: 1213789-63-9 - EINECS: 627-034-4	a) Aquatic acute toxicity : LD50 Fish Pimephales promelas = 0.11 mg/L 96h a) Aquatic acute toxicity : EC50 Daphnia = 0.011 mg/L 48h b) Aquatic chronic toxicity : NOEC Daphnia = 0.013 mg/L

PERSISTENCE AND DEGRADABILITY

no data available

Data on biodegradability of product are not available.

BIOACCUMULATIVE POTENTIAL

Not available.

MOBILITY IN SOIL

As the dispersion in the environment may result in contamination of environmental matrix (soil, subsoil, surface water and groundwater), do not release in the environment.

no data available

OTHER ADVERSE EFFECTS

No effect known.

Section 13: Disposal considerations

DISPOSAL 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.

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

The used product and its package have to be treated in accordance with the local council and /or state environment authority.

The package is disposed as waste only after it has been render incapable of containing any substance.

Packages may be reused or recycled only if it has been treated to remove any residual contents of the hazardous substance.

When the product or its dirty package are discharged as waste or deposited into a landfill, take care that there is no ignition or explosion source in the vicinity of the disposal site at any time that is capable of igniting the substance. If the substance were to ignite accidentally, take care that no person, or place where a person may legally be, would be exposed to an unsafe level of heat radiation.

Section 14: Transport information

UN NUMBER

N/A

UN PROPER SHIPPING NAME

ADG-Shipping Name: N.A.
ADR-Shipping Name: N/A
IATA-Technical name: N/A
IMDG-Technical name: N/A

TRANSPORT HAZARD CLASS(ES)

ADG-Class: -

ADR-Class: N/A
IATA-Class: N/A

IMDG-Class: N/A

PACKING GROUP, IF APPLICABLE

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

ENVIRONMENTAL HAZARDS

ADG-Environmental Pollutant: No
Marine pollutant: No

SPECIAL PRECAUTIONS FOR USER

ADG-Subsidiary hazards -

ADG-S.P.: -

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 Provisioning: N/A

Sea (IMDG) :
IMDG-Stowage Code: N/A
IMDG-Stowage Note: N/A
IMDG-Subsidiary hazards: N/A
IMDG-Special Provisioning: N/A
IMDG-EMS: N/A

ADDITIONAL INFORMATION

no data available

14.8. HAZCHEM CODE/EMERGENCY ACTION CODE

N.A.
no data available

Section 15: Regulatory information

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS SPECIFIC FOR THE PRODUCT IN QUESTION

REGULATORY REFERENCES:

Work Health and Safety Act and Regulations (WHS Act and Regulations)
Code of Practice - Labelling of Workplace Hazardous Chemicals (Safe Work Australia)
Code of Practice - Preparation of Safety Data Sheets for Hazardous Chemicals (Safe Work Australia)
Standard for the Uniform Scheduling of Medicines and Poisons - Poisons Standard (SUSMP)
Australian Inventory of Chemical Substances (AICS)
Globally Harmonized System of Classification and Labeling of Chemicals (GHS), Rev. 4th
Regulation (EC) No 1272/2008, with all National and European related legislations, on classification, labelling and packaging of substances and mixtures (CLP)
Regulation (EC) No 1907/2006, with all National and European related legislations, concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
This Safety Data Sheet has been prepared according to the Australian Work Health and Safety (WHS) act and the Code of Practice on preparation of safety data sheets for Hazardous Chemicals.

LIST OF SUBSTANCES INCLUDED IN THE NICNAS:

All components are in compliance with the National Industrial Chemicals Notification and Assessment Scheme (NICNAS).

LIST OF SUBSTANCES INCLUDED IN THE AICS INVENTORY:

All components are in compliance with the Australian Inventory of Chemical Substances (AICS).

POISON SCHEDULE (SUSMP):

None Specified

Section 16: Any other relevant information

The mineral base oils contained in this product are severely refined and are therefore not to be considered as carcinogen. They contain less than 3% DMSO extract according to IP 346 method ("Determination of polycyclic aromatics in unused lubricating base oils and asphaltene free petroleum fractions – Dimethyl sulphoxide extraction refractive index method", Institute of Petroleum, London).

Sheet complies with the criteria of Code of Practice - Preparation of SDS for Hazardous Chemicals and Global Harmonized System (GHS) standards.

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.

Date of first edition: 19/08/2019

Revision Date:: 10/09/2024 - version 2

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.

Key literature references and sources:

None

Caption about heading 3 and H–statements:

CODE	DESCRIPTION
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

CODE	HAZARD CLASS AND HAZARD CATEGORY	DESCRIPTION
2.6/3	Flam. Liq. 3	Flammable liquid, Category 3
3.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
3.10/1	Asp. Tox. 1	Aspiration hazard, Category 1
3.2/1B	Skin Corr. 1B	Skin corrosion, Category 1B
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/1	Eye Dam. 1	Serious eye damage, Category 1
3.3/2A	Eye Irrit. 2A	Eye irritation, Category 2A
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.4.2/1B	Skin Sens. 1B	Skin Sensitisation, Category 1B
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3
3.9/2	STOT RE 2	Specific target organ toxicity — repeated exposure, Category 2
AUS-HAE/A1	Aquatic Acute 1	Short-term (acute) aquatic hazard - Category 1
AUS-HAE/A2	Aquatic Acute 2	Short-term (acute) aquatic hazard - Category 2
AUS-HAE/A3	Aquatic Acute 3	Short-term (acute) aquatic hazard - Category 3
AUS-HAE/C1	Aquatic Chronic 1	Long-term (chronic) aquatic hazard - Category 1
AUS-HAE/C2	Aquatic Chronic 2	Long-term (chronic) aquatic hazard - Category 2

AUS-HAE/C3	Aquatic Chronic 3	Long-term (chronic) aquatic hazard - Category 3

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.
AND: 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
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.
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 5: Firefighting measures
- SECTION 7: Handling and storage
- SECTION 8: Exposure controls/personal protection
- SECTION 9: Physical and chemical properties
- SECTION 10: Stability and reactivity
- SECTION 12: Ecological information
- SECTION 14: Transport information