According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

## Shell Spirax S5 CFD M 60

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#### **SECTION 1. IDENTIFICATION**

Product name : Shell Spirax S5 CFD M 60

Product code : 001D8254

#### Manufacturer or supplier's details

Manufacturer/Supplier : Shell Oil Products US

PO Box 4427

Houston TX 77210-4427

USA

SDS Request : (+1) 877-276-7285

Customer Service :

**Emergency telephone number** 

Spill Information : 877-504-9351 Health Information : 877-242-7400

### Recommended use of the chemical and restrictions on use

Recommended use : Transmission oil.

#### **SECTION 2. HAZARDS IDENTIFICATION**

# GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Long-term (chronic) aquatic

hazard

: Category 3

**GHS** label elements

Hazard pictograms : No symbol

Signal word : No signal word

Hazard statements : PHYSICAL HAZARDS:

Not classified as a physical hazard under GHS criteria.

**HEALTH HAZARDS:** 

Not classified as a health hazard under GHS criteria.

**ENVIRONMENTAL HAZARDS:** 

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements : Prevention:

P273 Avoid release to the environment.

Response:

No precautionary phrases.

Storage:

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No precautionary phrases.

#### Disposal:

P501 Dispose of contents/ container to an approved waste dis-

posal plant.

#### Other hazards which do not result in classification

Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.

Used oil may contain harmful impurities.

Not classified as flammable but will burn.

The classification of this material is based on OSHA HCS 2012 criteria.

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

Substance / Mixture : Mixture

Chemical nature : Highly refined mineral oils and additives.

The highly refined mineral oil contains <3% (w/w) DMSO-

extract, according to IP346.

Classification based on DMSO extract content < 3% (Regula-

tion (EC) 1272/2008, Annex VI, Part 3, Note L).

\* contains one or more of the following CAS-numbers: 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-65-0, 68037-01-4, 72623-86-0, 72623-87-1, 8042-47-5, 848301-69-

9, 68649-12-7, 151006-60-9, 163149-28-8.

#### **Hazardous components**

Chemical name	Synonyms	CAS-No.	Concentration (% w/w)
Interchangeable low viscosity base oil (<20,5 cSt @40°C) *		Not Assigned	0 - 90
Substituted hydro- carbyl sulphide	1-(tert- do- decylthio)propa n-2-ol	67124-09-8	0.25 - 2.4
Ethoxylated amine	Ethanol, 2,2'- iminobis-, N- tallow alkyl derivs.	61791-44-4	0.1 - 0.24

### **SECTION 4. FIRST-AID MEASURES**

In case of skin contact : Remove contaminated clothing. Flush exposed area with wa-

ter and follow by washing with soap if available.

If persistent irritation occurs, obtain medical attention.

In case of eye contact : Flush eye with copious quantities of water.

Remove contact lenses, if present and easy to do. Continue

rinsing.

If persistent irritation occurs, obtain medical attention.

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If swallowed In general no treatment is necessary unless large quantities

are swallowed, however, get medical advice.

Most important symptoms and effects, both acute and

delayed

Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhoea.

Protection of first-aiders When administering first aid, ensure that you are wearing the

appropriate personal protective equipment according to the

incident, injury and surroundings.

Indication of any immediate medical attention and special

treatment needed

Treat symptomatically.

#### **SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media : Foam, water spray or fog. Dry chemical powder, carbon diox-

ide, sand or earth may be used for small fires only.

Unsuitable extinguishing

media

Do not use water in a jet.

Specific hazards during fire-

fighting

Hazardous combustion products may include:

A complex mixture of airborne solid and liquid particulates and

gases (smoke).

Carbon monoxide may be evolved if incomplete combustion

occurs.

Unidentified organic and inorganic compounds.

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.

Special protective equipment:

for firefighters

Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if

large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to

relevant Standards (e.g. Europe: EN469).

#### **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protec- : Avoid contact with skin and eyes. tive equipment and emergency procedures

**Environmental precautions** Local authorities should be advised if significant spillages

cannot be contained.

Methods and materials for containment and cleaning up

Slippery when spilt. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth

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or other containment material.

Reclaim liquid directly or in an absorbent.

Soak up residue with an absorbent such as clay, sand or other

suitable material and dispose of properly.

Additional advice : For guidance on selection of personal protective equipment

see Section 8 of this Safety Data Sheet.

For guidance on disposal of spilled material see Section 13 of

this Safety Data Sheet.

#### **SECTION 7. HANDLING AND STORAGE**

Technical measures : Use local exhaust ventilation if there is risk of inhalation of

vapours, mists or aerosols.

Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this

material.

Advice on safe handling : Avoid prolonged or repeated contact with skin.

Avoid inhaling vapour and/or mists.

When handling product in drums, safety footwear should be worn and proper handling equipment should be used. Properly dispose of any contaminated rags or cleaning mate-

rials in order to prevent fires.

Avoidance of contact : Strong oxidising agents.

Product Transfer : Proper grounding and bonding procedures should be used

during all bulk transfer operations to avoid static accumulation.

Further information on stor-

age stability

Keep container tightly closed and in a cool, well-ventilated

place.

Use properly labeled and closable containers.

Store at ambient temperature.

Packaging material : Suitable material: For containers or container linings, use mild

steel or high density polyethylene.

Unsuitable material: PVC.

Container Advice : Polyethylene containers should not be exposed to high tem-

peratures because of possible risk of distortion.

#### **SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

#### Components with workplace control parameters

Components	CAS-No.	Value type (Form of	Control parame- ters / Permissible	Basis
		exposure)	concentration	

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Oil mist, mineral	Not Assigned	TWA (Mist)	5 mg/m3	OSHA Z-1
Oil mist, mineral		TWA (Inhal-	5 mg/m3	ACGIH
		able particu-		
		late matter)		

#### **Biological occupational exposure limits**

No biological limit allocated.

#### **Monitoring Methods**

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/

Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany http://www.dguv.de/inhalt/index.jsp

L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

#### **Engineering measures**

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:

Adequate ventilation to control airborne concentrations.

Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

#### General Information:

Define procedures for safe handling and maintenance of controls.

Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.

Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.

Drain down system prior to equipment break-in or maintenance.

Retain drain downs in sealed storage pending disposal or subsequent recycle.

Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard con-

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taminated clothing and footwear that cannot be cleaned.

Practice good housekeeping.

### Personal protective equipment

Respiratory protection

No respiratory protection is ordinarily required under normal conditions of use.

In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material.

If engineering controls do not maintain airborne concentra-

tions to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.

Select a filter suitable for the combination of organic gases and vapours and particles [Type A/Type P boiling point

>65°C (149°F)].

Hand protection Remarks

Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. PVC, neoprene or nitrile rubber gloves Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.

Eye protection : If material is handled such that it could be splashed into eyes,

protective eyewear is recommended.

Skin and body protection : Skin protection is not ordinarily required beyond standard

work clothes.

It is good practice to wear chemical resistant gloves.

Protective measures : Personal protective equipment (PPE) should meet recom-

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mended national standards. Check with PPE suppliers.

Thermal hazards : Not applicable

#### **Environmental exposure controls**

General advice : Take appropriate measures to fulfill the requirements of rele-

vant environmental protection legislation. Avoid contamination of the environment by following advice given in Section 6. If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant before

discharge to surface water.

Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing

vapour.

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

Appearance : Liquid at room temperature.

Colour : amber

Odour : Slight hydrocarbon

Odour Threshold : Data not available

pH : Not applicable

pour point :  $-15 \,^{\circ}\text{C} / 5 \,^{\circ}\text{F}$ 

Method: ISO 3016

Melting / freezing point Data not available

Initial boiling point and boiling

range

: > 280 °C / 536 °F estimated value(s)

Flash point : 260 °C / 500 °F

Method: ISO 2592

Evaporation rate : Data not available

Flammability (solid, gas) : Data not available

Upper explosion limit / upper

flammability limit

Typical 10 %(V)

Lower explosion limit / Lower

flammability limit

Typical 1 %(V)

Vapour pressure :  $< 0.5 \text{ Pa} (20 \,^{\circ}\text{C} / 68 \,^{\circ}\text{F})$ 

estimated value(s)

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Relative vapour density : > 1

estimated value(s)

Relative density : 0.904 (15 °C / 59 °F)

Density : 904 kg/m3 (15.0 °C / 59.0 °F)

Method: ISO 12185

Solubility(ies)

Water solubility : negligible

Solubility in other solvents : Data not available

Partition coefficient: n-

: log Pow: > 6

octanol/water

(based on information on similar products)

Auto-ignition temperature : > 320 °C / 608 °F

Decomposition temperature : Data not available

Viscosity

Viscosity, dynamic : Data not available

Viscosity, kinematic : 22.8 - 25.2 mm2/s (100 °C / 212 °F)

Method: ISO 3104

Explosive properties : Not classified

Oxidizing properties : Data not available

Conductivity : This material is not expected to be a static accumulator.

### **SECTION 10. STABILITY AND REACTIVITY**

Reactivity : The product does not pose any further reactivity hazards in

addition to those listed in the following sub-paragraph.

Chemical stability : Stable.

Possibility of hazardous reac-

C-

Reacts with strong oxidising agents.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials : Strong oxidising agents.

Hazardous decomposition

products

tions

No decomposition if stored and applied as directed.

### **SECTION 11. TOXICOLOGICAL INFORMATION**

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Basis for assessment Information given is based on data on the components and

> the toxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a

whole, rather than for individual component(s).

#### Information on likely routes of exposure

Skin and eye contact are the primary routes of exposure although exposure may occur following accidental ingestion.

#### **Acute toxicity**

#### **Product:**

Acute oral toxicity : LD50 (rat): > 5,000 mg/kg

Remarks: Low toxicity:

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

Acute inhalation toxicity : Remarks: Based on available data, the classification criteria

are not met.

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

Remarks: Low toxicity:

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

#### Skin corrosion/irritation

#### **Product:**

Remarks: Slightly irritating to skin., Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis., Based on available data, the classification criteria are not met.

### Serious eye damage/eye irritation

#### Product:

Remarks: Slightly irritating to the eye., Based on available data, the classification criteria are not met.

### Respiratory or skin sensitisation

### **Product:**

Remarks: Not a skin sensitiser.

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

### Components:

#### Substituted hydrocarbyl sulphide:

Remarks: Experimental data has shown that the concentration of potentially sensitising components present in this product does not induce skin sensitisation. May cause an allergic skin reaction in sensitive individuals.

#### Germ cell mutagenicity

#### **Product:**

: Remarks: Non mutagenic, Based on available data, the classi-

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fication criteria are not met.

#### Carcinogenicity

#### **Product:**

Remarks: Not a carcinogen., Based on available data, the classification criteria are not met.

Remarks: Product contains mineral oils of types shown to be non-carcinogenic in animal skinpainting studies., Highly refined mineral oils are not classified as carcinogenic by the International Agency for Research on Cancer (IARC).

IARC No component of this product present at levels greater than or

equal to 0.1% is identified as probable, possible or confirmed

human carcinogen by IARC.

OSHA No component of this product present at levels greater than or

equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or

equal to 0.1% is identified as a known or anticipated carcinogen

by NTP.

### Reproductive toxicity

**Product:** 

Remarks: Not a developmental toxicant., Does not impair fertility., Based on available data, the classification criteria are

not met.

#### STOT - single exposure

#### **Product:**

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

#### STOT - repeated exposure

#### **Product:**

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

#### **Aspiration toxicity**

#### **Product:**

Not an aspiration hazard.

### **Further information**

#### **Product:**

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Remarks: Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal., ALL used oil should be handled with caution and skin contact avoided as far as possible.

Remarks: Slightly irritating to respiratory system.

#### **SECTION 12. ECOLOGICAL INFORMATION**

Basis for assessment : Ecotoxicological data have not been determined specifically

for this product.

Information given is based on a knowledge of the components

and the ecotoxicology of similar products.

Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).(LL/EL/IL50 expressed as the nominal amount of

product required to prepare aqueous test extract).

### **Ecotoxicity**

**Product:** 

Toxicity to fish (Acute toxici-

ty)

Remarks: LL/EL/IL50 10-100 mg/l

Harmful

Toxicity to daphnia and other :

aquatic invertebrates (Acute

toxicity)

Remarks: LL/EL/IL50 10-100 mg/l

Harmful

Toxicity to algae (Acute tox-

icity)

Remarks: LL/EL/IL50 10-100 mg/l

Harmful

Toxicity to fish (Chronic tox-

icity)

Remarks: NOEC/NOEL > 10 - <=100 mg/l

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

Remarks: NOEC/NOEL > 10 - <=100 mg/l

Toxicity to microorganisms

(Acute toxicity)

Remarks: NOEC/NOEL > 10 - <=100 mg/l

#### Components:

### Substituted hydrocarbyl sulphide:

M-Factor (Acute aquatic tox- :

icity)

M-Factor (Chronic aquatic

toxicity)

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**Ethoxylated amine:** 

M-Factor (Acute aquatic tox- :

icity)

. 10

M-Factor (Chronic aquatic

toxicity)

: 1

Persistence and degradability

**Product:** 

Biodegradability : Remarks: Not readily biodegradable.

Major constituents are inherently biodegradable, but contains

components that may persist in the environment.

**Bioaccumulative potential** 

**Product:** 

Bioaccumulation : Remarks: Contains components with the potential to bioac-

cumulate.

Mobility in soil

**Product:** 

Mobility : Remarks: Liquid under most environmental conditions.

Adsorbs to soil and has low mobility

Remarks: Floats on water.

Other adverse effects

Product:

Additional ecological infor-

mation

Does not have ozone depletion potential, photochemical ozone creation potential or global warming potential.

Product is a mixture of non-volatile components, which will not be released to air in any significant quantities under normal

conditions of use.

Poorly soluble mixture.

Causes physical fouling of aquatic organisms.

Mineral oil does not cause chronic toxicity to aquatic organ-

isms at concentrations less than 1 mg/l.

**SECTION 13. DISPOSAL CONSIDERATIONS** 

**Disposal methods** 

Waste from residues : Recover or recycle if possible.

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal meth-

ods in compliance with applicable regulations.

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Do not dispose into the environment, in drains or in water courses

Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment. Waste, spills or used product is dangerous waste. Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand. Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination.

MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides technical aspects at controlling pollutions from ships.

Contaminated packaging : Dispose in accordance with prevailing regulations, preferably

to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand. Disposal should be in accordance with applicable regional,

national, and local laws and regulations.

**Local legislation** 

Remarks : Disposal should be in accordance with applicable regional,

national, and local laws and regulations.

#### **SECTION 14. TRANSPORT INFORMATION**

#### **National Regulations**

### **US Department of Transportation Classification (49 CFR Parts 171-180)**

Not regulated as a dangerous good

#### **International Regulations**

#### **IATA-DGR**

Not regulated as a dangerous good

#### **IMDG-Code**

Not regulated as a dangerous good

#### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied. MARPOL Annex 1 rules apply for bulk shipments by sea.

#### Special precautions for user

Remarks : Special Precautions: Refer to Section 7, Handling & Storage,

for special precautions which a user needs to be aware of or

needs to comply with in connection with transport.

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#### **SECTION 15. REGULATORY INFORMATION**

## **EPCRA - Emergency Planning and Community Right-to-Know Act**

#### **CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ	Calculated product RQ
		(lbs)	(lbs)
Phosphoric acid	7664-38-2	5000	*

<sup>\*:</sup> Calculated RQ exceeds reasonably attainable upper limit., The components with RQs are given for information., Shell classifies this material as an "oil" under the CERCLA Petroleum Exclusion, therefore releases to the environment are not reportable under CERCLA.

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

#### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards	:	No SARA Hazards
----------------------	---	-----------------

SARA 313 : This material does not contain any chemical components with

known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### **Clean Water Act**

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Phosphoric acid 7664-38-2 0.0345 %

#### **US State Regulations**

#### Pennsylvania Right To Know

Distillates, petroleum, solvent-dewaxed light paraffinic	64742-56-9
Highly refined mineral oil (IP346 <3%)	64741-88-4
diphenylamine	122-39-4
Phosphoric acid	7664-38-2

### California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

#### California List of Hazardous Substances

Distillates, petroleum, solvent-dewaxed light paraffinic	64742-56-9	
Highly refined mineral oil (IP346 <3%)	64741-88-4	

#### California Permissible Exposure Limits for Chemical Contaminants

Highly refined mineral oil (IP346 <3%) 64741-88-4	
---	--

#### Other regulations:

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

### The components of this product are reported in the following inventories:

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EINECS : Not established.

TSCA : All components listed.

DSL : All components listed.

#### **SECTION 16. OTHER INFORMATION**

#### **Further information**

NFPA Rating (Health, Fire, Reac- 0, 1, 0

tivity)

#### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Lim-

its for Air Contaminants

ACGIH / TWA : 8-hour, time-weighted average OSHA Z-1 / TWA : 8-hour time weighted average

Abbreviations and Acronyms : The standard abbreviations and acronyms used in this docu-

ment can be looked up in reference literature (e.g. scientific

dictionaries) and/or websites.

ACGIH = American Conference of Governmental Industrial

Hygienists

ADR = European Agreement concerning the International

Carriage of Dangerous Goods by Road

AICS = Australian Inventory of Chemical Substances ASTM = American Society for Testing and Materials

BEL = Biological exposure limits

BTEX = Benzene, Toluene, Ethylbenzene, Xylenes

CAS = Chemical Abstracts Service

CEFIC = European Chemical Industry Council CLP = Classification Packaging and Labelling

COC = Cleveland Open-Cup

DIN = Deutsches Institut fur Normung
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level

DSL = Canada Domestic Substance List

EC = European Commission EC50 = Effective Concentration fifty

ECETOC = European Center on Ecotoxicology and Toxicolo-

gy Of Chemicals

ECHA = European Chemicals Agency

EINECS = The European Inventory of Existing Commercial

Chemical Substances EL50 = Effective Loading fifty

ENCS = Japanese Existing and New Chemical Substances

Inventory

EWC = European Waste Code

GHS = Globally Harmonised System of Classification and

Labelling of Chemicals

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IARC = International Agency for Research on Cancer

IATA = International Air Transport Association

IC50 = Inhibitory Concentration fifty

IL50 = Inhibitory Level fifty

IMDG = International Maritime Dangerous Goods

INV = Chinese Chemicals Inventory

IP346 = Institute of Petroleum test method N° 346 for the determination of polycyclic aromatics DMSO-extractables

KECI = Korea Existing Chemicals Inventory

LC50 = Lethal Concentration fifty LD50 = Lethal Dose fifty per cent.

LL/EL/IL = Lethal Loading/Effective Loading/Inhibitory loading

LL50 = Lethal Loading fifty

MARPOL = International Convention for the Prevention of

Pollution From Ships

NOEC/NOEL = No Observed Effect Concentration / No Ob-

served Effect Level

OE\_HPV = Occupational Exposure - High Production Volume

PBT = Persistent, Bioaccumulative and Toxic

PICCS = Philippine Inventory of Chemicals and Chemical

Substances

PNEC = Predicted No Effect Concentration

REACH = Registration Evaluation And Authorisation Of

Chemicals

RID = Regulations Relating to International Carriage of Dan-

gerous Goods by Rail

SKIN\_DES = Skin Designation

STEL = Short term exposure limit TRA = Targeted Risk Assessment

TSCA = US Toxic Substances Control Act

TWA = Time-Weighted Average

vPvB = very Persistent and very Bioaccumulative

A vertical bar (|) in the left margin indicates an amendment from the previous version.

Due to a change in detail in Section 15, this document has been released as a significant change.

Sources of key data used to compile the Safety Data

Sheet

The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU

IUCLID date base, EC 1272 regulation, etc).

Revision Date : 03/22/2021

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

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

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