

OKS 1103

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1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : OKS 1103

Manufacturer or supplier's details

Company name of supplier : OKS Spezialschmierstoffe GmbH
Ganghoferstr. 47
D-82216 Maisach-Gernlinden
Tel.: +49 8142 3051 500
Fax.: +49 8142 3051 599
info@oks-germany.com

E-mail address of person responsible for the SDS : mcm@oks-germany.com
Material Compliance Management

Emergency telephone number : +7 495 628 1687
+49 8142 3051 517

Recommended use of the chemical and restrictions on use

Recommended use : Lubricant

Restrictions on use : Restricted to professional users.


2. HAZARDS IDENTIFICATION

GHS Classification (According to GOST 32423, GOST 32424 and GOST 32425)

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

GHS-Labeling (According to GOST 31340)

Hazard pictograms : 

Signal word : Warning

Hazard statements : H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P273 Avoid release to the environment.

Response:

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P391 Collect spillage.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical nature : silicone oil
Thickening agent

Components

Chemical name	Concentration (% w/w)	Occupational Exposure Limits		CAS-No.	EC-No.
		MAC value mg/m ³ / TSEL value	Hazard Class		
zinc oxide	>= 30 - < 50	MPC-TWA: 0,5 mg/m ³ Data Source: RU OEL	2	1314-13-2	215-222-5
		MPC-STEL: 1,5 mg/m ³ Data Source: RU OEL	2		
zinc carbonate	>= 2,5 - < 10	TSEL: 2 mg/m ³ Data Source: RU TSEL		3486-35-9	222-477-6
magnesium oxide	>= 1 - < 10	MPC-STEL: 4 mg/m ³ Data Source: RU OEL	4	1309-48-4	215-171-9

4. FIRST AID MEASURES

If inhaled : Remove person to fresh air. If signs/symptoms continue, get medical attention.
Keep patient warm and at rest.
If unconscious, place in recovery position and seek medical advice.

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- Keep respiratory tract clear.
If breathing is irregular or stopped, administer artificial respiration.
- In case of skin contact : Remove contaminated clothing. If irritation develops, get medical attention.
Wash off with soap and water.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes.
If eye irritation persists, consult a specialist.
- If swallowed : Move the victim to fresh air.
If unconscious, place in recovery position and seek medical advice.
Keep respiratory tract clear.
Do not induce vomiting without medical advice.
Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : No information available.
None known.
- Notes to physician : No information available.

5. FIREFIGHTING MEASURES

Flammable properties

- Flash point : Not applicable
Ignition temperature : No data available
- Upper explosion limit / Upper flammability limit : No data available
- Lower explosion limit / Lower flammability limit : No data available
- Flammability (solid, gas) : Combustible Solids
- Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- Unsuitable extinguishing media : High volume water jet
- Hazardous combustion products : Carbon oxides
Metal oxides



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- Further information : Standard procedure for chemical fires.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.
Exposure to decomposition products may be a hazard to health.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas.
Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust).
Do not breathe vapours, aerosols.
Refer to protective measures listed in sections 7 and 8.
- Environmental precautions : Do not allow contact with soil, surface or ground water.
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Clean up promptly by sweeping or vacuum.
Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

- Advice on safe handling : Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Wash hands and face before breaks and immediately after handling the product.
Do not ingest.
Do not repack.
These safety instructions also apply to empty packaging which may still contain product residues.
Keep container closed when not in use.
- Conditions for safe storage : Store in original container.
Keep container closed when not in use.
Keep in a dry, cool and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Store in accordance with the particular national regulations.
Keep in properly labelled containers.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Data Source
zinc oxide	1314-13-2	MPC-TWA (aerosol)	0,5 mg/m ³	RU OEL (2021-02-03)
Further information: Class 2 - Highly dangerous				
		MPC-STEEL (aerosol)	1,5 mg/m ³	RU OEL (2021-02-03)
Further information: Class 2 - Highly dangerous				
zinc carbonate	3486-35-9	TSEL (aerosol)	2 mg/m ³	RU TSEL (2021-02-03)
magnesium oxide	1309-48-4	MPC-STEEL (aerosol)	4 mg/m ³	RU OEL (2021-02-03)
Further information: Class 4 - Low hazard				

Engineering measures : none

Personal protective equipment

Respiratory protection : Not required; except in case of aerosol formation.

Filter type : Filter type P

Hand protection

Material : Nitrile rubber

Break through time : > 10 min

Protective index : Class 1

Remarks : For prolonged or repeated contact use protective gloves. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case.

Eye protection : Safety glasses with side-shields

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures : Wash face, hands and any exposed skin thoroughly after handling.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : paste

Colour : white

Odour : characteristic

Odour Threshold : No data available

pH : Not applicable
substance/mixture is non-soluble (in water)

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : Not applicable

Evaporation rate : No data available

Flammability (solid, gas) : Combustible Solids

Self-ignition : not auto-flammable

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : < 0,001 hPa (20 °C)

Relative vapour density : No data available

Relative density : 1,55 (20 °C)
Reference substance: Water
The value is calculated

Density : 1,55 g/cm³ (20 °C)

Bulk density : No data available

Solubility(ies)
Water solubility : insoluble

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Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity

 Viscosity, dynamic : No data available

 Viscosity, kinematic : Not applicable

Explosive properties : Not explosive

Oxidizing properties : No data available

Sublimation point : No data available

Metal corrosion rate : Not corrosive to metals

10. STABILITY AND REACTIVITY

Reactivity : No hazards to be specially mentioned.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : No dangerous reaction known under conditions of normal use.

Conditions to avoid : No conditions to be specially mentioned.

Incompatible materials : No materials to be especially mentioned.

Hazardous decomposition products : >150 °C small quantities of formaldehyde may be formed.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate: > 5.000 mg/kg
Method: Calculation method

Acute inhalation toxicity : Remarks: This information is not available.

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Acute dermal toxicity : Remarks: This information is not available.

Components:

zinc oxide:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 5,7 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity

zinc carbonate:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 401

magnesium oxide:

Acute oral toxicity : LD50 (Rat, male): 3.870 mg/kg

Skin corrosion/irritation

Product:

Remarks : This information is not available.

Components:

zinc oxide:

Species : Rabbit
Assessment : No skin irritation
Method : OECD Test Guideline 404
Result : No skin irritation



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Serious eye damage/eye irritation

Product:

Remarks : This information is not available.

Components:

zinc oxide:

Species : Rabbit
Result : No eye irritation
Assessment : No eye irritation
Method : OECD Test Guideline 405
GLP : yes

zinc carbonate:

Species : Rabbit
Result : No eye irritation
Assessment : No eye irritation

Respiratory or skin sensitisation

Product:

Remarks : This information is not available.

Components:

zinc oxide:

Test Type : Maximisation Test
Species : Guinea pig
Assessment : Does not cause skin sensitisation.
Method : OECD Test Guideline 406
Result : Does not cause skin sensitisation.
GLP : yes

zinc carbonate:

Test Type : Maximisation Test
Species : Guinea pig
Assessment : Does not cause skin sensitisation.
Result : Does not cause skin sensitisation.



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Germ cell mutagenicity

Product:

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

Components:

zinc oxide:

Germ cell mutagenicity - Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

Product:

Remarks : No data available

Components:

zinc oxide:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

Reproductive toxicity

Product:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

Components:

zinc oxide:

Reproductive toxicity - Assessment : - Fertility -
No toxicity to reproduction
- Teratogenicity -
No toxicity to reproduction

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STOT - single exposure

Components:

zinc oxide:

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Components:

zinc oxide:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Product:

Remarks : This information is not available.

Aspiration toxicity

Product:

This information is not available.

Components:

zinc oxide:

No aspiration toxicity classification

Further information

Product:

Remarks : Information given is based on data on the components and the toxicology of similar products.

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12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : Remarks: May cause long-term adverse effects in the aquatic environment.

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available

Toxicity to algae/aquatic plants : Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

Components:

zinc oxide:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 1,55 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 0,136 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Acute aquatic toxicity) : 1

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : (Daphnia magna (Water flea)): 0,04 mg/l
Exposure time: 21 d
Test Type: semi-static test
Method: OECD Test Guideline 211

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M-Factor (Chronic aquatic toxicity) : 1
Toxicity to microorganisms : EC50 (activated sludge): > 1.000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
GLP: yes

zinc carbonate:

Toxicity to fish : EC50 (Oncorhynchus mykiss (rainbow trout)): 0,169 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 0,147 mg/l
Exposure time: 48 h

M-Factor (Acute aquatic toxicity) : 1

M-Factor (Chronic aquatic toxicity) : 1

Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Physico-chemical removability : Remarks: No data available

Components:

zinc oxide:

Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).
This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).

Components:

magnesium oxide:

Partition coefficient: n- : Remarks: Not applicable



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octanol/water

Mobility in soil

Product:

Mobility : Remarks: No data available

Distribution among environmental compartments : Remarks: No data available

Other adverse effects

Product:

Additional ecological information : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Components:

zinc oxide:

Results of PBT and vPvB assessment : Remarks: Not applicable

Hygienic standards:

(Allowable concentration in air, water, including fishery waters, soil)

Components	Air	Water	Soil	Data Source
zinc oxide	<p>Concentration that provides admissible (acceptable) levels of risk when exposed to at least 24 hours - average daily: 0,05 mg/m³ (Zinc) Limiting health hazard indicator: resorptive Class 3 - moderately dangerous</p> <p>Concentration that provides permissible (acceptable) levels of risk for chronic (at least 1 year) exposure - average daily: 0,035 mg/m³ (Zinc)</p>			



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	Limiting health hazard indicator: resorptive Class 3 - moderately dangerous			
zinc carbonate	Concentration that provides admissible (acceptable) levels of risk when exposed to at least 24 hours - average daily: 0,02 mg/m ³ (Zinc) Limiting health hazard indicator: resorptive Class 4 - low hazard			
magnesium oxide	Concentration that prevents irritation, reflex reactions, odors when exposed to 20-30 minutes - maximum one-time: 0,4 mg/m ³ Limiting health hazard indicator: resorptive Class 3 - moderately dangerous Concentration that provides admissible (acceptable) levels of risk when exposed to at least 24 hours - average daily: 0,05 mg/m ³ Limiting health hazard indicator: resorptive Class 3 - moderately dangerous			

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13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not dispose of with domestic refuse.
Dispose of as hazardous waste in compliance with local and national regulations.

Contaminated packaging : Packaging that is not properly emptied must be disposed of as the unused product.
Dispose of waste product or used containers according to local regulations.

The following Waste Codes are only suggestions:

Waste Code : used product, unused product
12 01 12*, spent waxes and fats

uncleaned packagings
15 01 10, packaging containing residues of or contaminated by hazardous substances

14. TRANSPORT INFORMATION

ADR

UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(zinc oxide)
Class : 9
Packing group : III
Labels : 9
Hazard Identification Number : 90
Tunnel restriction code : (-)
Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 3077
Proper shipping name : Environmentally hazardous substance, solid, n.o.s.
(zinc oxide)
Class : 9
Packing group : III
Labels : Miscellaneous Dangerous Goods
Packing instruction (cargo aircraft) : 956
Packing instruction (passenger aircraft) : 956
Environmentally hazardous : yes

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IMDG-Code

UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S.
(zinc oxide)
Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes

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

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. REGULATORY INFORMATION

National regulatory information

Federal Law of 10.01.2002 No. 184-FZ "On Technical Regulation".
Federal Law of 10.01.2002 No. 7-FZ "On Environmental Protection".
Federal Law of 21.07.1997 No. 116-FZ (amended on 11.06.2021) "On industrial safety of hazardous production facilities".
Federal Law of 24.06.1998 No. 89-FZ (amended on 02.07.2021) "On production and consumption waste".
Federal Law of 10.01.2002 No. 7-FZ (amended on 02.07.2021) "On environmental protection".
Federal Law of 04.05.1999 No. 96-FZ "On the protection of atmospheric air" (as amended on December 8, 2020).
Federal Law of 30.03.1999 No. 52-FZ (amended on 02.07.2021) "On the Sanitary and Epidemiological Well-Being of the Population" (amended and supplemented, entered into force on 31.10.2021).
Federal Law of 27.12.2002 No. 184-FZ (amended on 02.07.2021) "On Technical Regulation" (amended and supplemented, entered into force on 01.09.2021).
TECHNICAL REGULATIONS OF THE CUSTOMS UNION TR CU 030/2012 On requirements for lubricants, oils and special fluids (amended on 03.03.2017).

16. OTHER INFORMATION

List of data sources used in the preparation of the Safety Data Sheet

GOST 30333-2007. Interstate standard. Safety data sheet for chemical products. Primary requirements.



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GOST 12.1.007-76 Occupational safety standards system. Noxious substances. Classification and general safety requirements
GOST 12.1.044-89 Occupational safety standards system. Fire and explosion hazard of substances and materials. Nomenclature of indices and methods of their determination
GOST 14192-96. Interstate standard. Cargo marking. Minsk, 1998.
GOST 31340-2013. Interstate standard. Precautionary labeling of chemical products. General requirements.
GOST 32419-2013 Classification of the hazard of chemical products. General requirements.
GOST 32421-2013 Classification of chemical products, the hazard of which is due to physical and chemical properties. Test methods for explosive chemical products.
GOST 32423-2013 Hazard classification of mixed chemical products by their effects on the body.
GOST 32424-2013 Classification of the hazard of chemical products by their impact on the environment. Basic provisions.
GOST 32425-2013 Hazard classification of mixed chemical products in terms of environmental impact.
GOST R 53264-2009 Fire fighting equipment. Special protective clothing for firefighters. General technical requirements. Test methods.
GOST R 53265-2009 Fire fighting equipment. Personal protective equipment for the feet of the firefighter. General technical requirements. Test methods.
GOST R 53268-2009 Fire fighting equipment. Fire rescue belts. General technical requirements. Test methods.
GOST R 53269-2009 Fire fighting equipment. Firefighters helmets. General technical requirements. Test methods.
SanPiN 1.2.3685-21 "Hygienic standards and requirements for ensuring the safety and (or) harmlessness to humans of environmental factors" dated 28.01.2021.
SanPiN 2.1.3684-21 "Sanitary and epidemiological requirements for the maintenance of the territories of urban and rural settlements, for water bodies, drinking water and drinking water supply, atmospheric air, soils, living quarters, the operation of industrial, public premises, the organization and implementation of sanitary and anti-epidemic (preventive) measures".
European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). United Nations. New York and Geneva, 20.
International Maritime Dangerous Goods Code (IMDG-Code).
Water quality standards for fishery water bodies, including standards for maximum permissible concentrations of harmful substances in the waters of fishery water bodies (approved by order of the Ministry of Agriculture of Russia dated December 13, 2016 No. 552).
Regulations for the carriage of dangerous goods (Appendix 1 and 2) to the Agreement on International Goods Transport by Rail (SMGS), 2009.
UN Recommendations on the Transport of Dangerous Goods. Typical rules. Twenty-first revised edition. United Nations, New York and Geneva, 2019.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
RU OEL	:	SanPiN 1.2.3685-21 Table 2.1, Table 2.8, Table 2.16 & Table 2.17 Maximum permissible concentrations (MPC) in the air of the working area
RU TSEL	:	SanPiN 1.2.3685-21 Table 2.2 Tentative Safe Exposure Levels (TSELs) of Pollutants in the Air of the Working Area
RU OEL / MPC-STEL	:	Maximum Permissible Concentration - Short Term Exposure
RU OEL / MPC-TWA	:	Maximum Permissible Concentration - Time Weighted Average
RU TSEL / TSEL	:	TSEL value

SAFETY DATA SHEET

- RU



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ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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