

SAFETY DATA SHEET

According to the Hazard Communication Standard, 29 CFR 1910.1200

RUBIA OPTIMA 1300 15W-40

SDS #: 088465

Section 1. Identification

GHS product identifier : RUBIA OPTIMA 1300 15W-40

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

Identified uses

Engine oil

Supplier's details: TotalEnergies Marketing USA, Inc.

1201 Louisiana St. Suite 1800

Houston, TX 77002 Phone: 713-483-5000 ProductSafety@total.com

Emergency telephone number (with hours of operation)

:

1-866-928-0789 (For Emergencies, call CARECHEM 24/7 Domestic) 1-215-207-0061 (For Emergencies, call CARECHEM 24/7 International)

Section 2. Hazards identification

OSHA/HCS status

: While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture

: Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements: No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Supplemental label

elements

: Avoid contact with skin and clothing. Wash thoroughly after handling.

Hazards not otherwise

classified

: Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	% (w/w)	CAS number
Distillates (petroleum), hydrotreated heavy paraffinic Distillates (petroleum), hydrotreated light paraffinic zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	<5	64742-54-7 64742-55-8 93819-94-4

Date of revision	: 2022/01/24	1	USA	ENGLISH	1/13
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otalEnergies sps #: 088465

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Additional information

: Mineral oil of petroleum origin Product containing mineral oil with less than 3% DMSO extract as

measured by IP 346

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower

eyelids. Check for and remove any contact lenses. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get

medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under

medical surveillance for 48 hours.

Skin contact: Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove

contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion: Wash out mouth with water. If material has been swallowed and the exposed person is

conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contactInhalationNo known significant effects or critical hazards.No known significant effects or critical hazards.

Skin contact: Defatting to the skin. May cause skin dryness and irritation.

Ingestion: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data. **Inhalation** : No specific data.

Skin contact: Adverse symptoms may include the following:

irritation dryness cracking

Ingestion: No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed.

The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments: No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Date of revision : 2022/01/24 1 USA ENGLISH 2/13



SDS #: 088465

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing

media

: Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing

media

: Do not use water jet.

Specific hazards arising from the chemical

: In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products

: carbon oxides (CO, CO₂)
phosphorus oxides
nitrogen oxides
Zinc oxides
sulfur oxides
Hydrogen sulfide
various hydrocarbons

Soot

Special protective actions for fire-fighters

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders:

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

: Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Date of revision : 2022/01/24 1 USA ENGLISH 3/13



SDS#: 088465

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Advice on general occupational hygiene

- : Put on appropriate personal protective equipment (see Section 8).
- : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

including any incompatibilities

Conditions for safe storage, : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Distillates (petroleum), hydrotreated heavy paraffinic	ACGIH TLV (United States, 3/2020). TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction NIOSH REL (United States, 10/2016). TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist OSHA PEL (United States, 5/2018). TWA: 5 mg/m³ 8 hours.
Distillates (petroleum), hydrotreated light paraffinic	ACGIH TLV (United States, 3/2020). TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction NIOSH REL (United States, 10/2016). TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist OSHA PEL (United States, 5/2018). TWA: 5 mg/m³ 8 hours.
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	None.

Advisory OEL

: Mineral oil mist: USA: OSHA (PEL) TWA 5 mg/m3, NIOSH (REL) TWA 5 mg/m3, STEL 10 mg/m3, ACGIH (TLV) TWA 5 mg/m3 (highly refined)

Appropriate engineering controls

Environmental exposure controls

- : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Date of revision : 2022/01/24 1 USA **ENGLISH** 4/13



SDS#: 088465

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with sideshields.

Skin protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Hydrocarbon-proof gloves

Fluorinated rubber nitrile rubber

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator with combination filter for vapor/particulate Type A/P1 Warning! filters have a limited use duration The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses None under normal use conditions

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature (20°C / 68°F) and pressure (1013 hPa) unless otherwise indicated

Appearance

Physical state : Liquid. [limpid] Not available. Color : Characteristic. Odor : Not available. Odor threshold : Not available. : Not available. **Melting point/freezing point Boiling point** : Not available.

Flash point : Open cup: 220°C (428°F) [ASTM D 92]

: Not available. **Evaporation rate** : Not available. Flammability (solid, gas) Lower and upper explosive : Not available. (flammable) limits

Vapor pressure

: Not available. Vapor density : Not available.

: 2022/01/24 1 USA **ENGLISH** Date of revision 5/13



SDS #: 088465

Relative density : 0.876 [ASTM D 4052]

Density : 0.876 g/cm³ [15°C] [ASTM D 4052]

Solubility : Insoluble in the following materials: cold water and hot water.

Miscible with water : No.

Partition coefficient: n-

octanol/water

: Not applicable.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C (104°F)): 15.3 mm²/s (15.3 cSt) [ASTM D 445]

Flow time (ISO 2431) : Not available.

Particle characteristics

Median particle size : Not applicable.

Section 10. Stability and reactivity

Reactivity: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : Stable under recommended storage and handling conditions (see Section 7).

Possibility of hazardous

reactions

: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

smoking.

Incompatible materials : Strong oxidizing agents

Hazardous decomposition

products

: carbon oxides (CO, CO₂)

phosphorus oxides nitrogen oxides Zinc oxides sulfur oxides Hydrogen sulfide various hydrocarbons

Soot

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/substance	Result	Species	Dose	Exposure	Test
Distillates (petroleum), hydrotreated heavy paraffinic	LC50 Inhalation Dusts and mists	Rat - Male, Female	>5 mg/l	4 hours	OECD 403 Read across
	LD50 Dermal	Female	>5000 mg/kg	-	OECD 402 Read across
	LD50 Oral	Rat - Male, Female	>5000 mg/kg	-	OECD 401 Read across
Distillates (petroleum), hydrotreated light paraffinic	LC50 Inhalation Dusts and mists	Rat	>5 mg/l	4 hours	OECD 403
	LD50 Dermal LD50 Oral	Rabbit Rat	>5000 mg/kg >5000 mg/kg	-	OECD 402 OECD 420

Date of revision : 2022/01/24 1 USA ENGLISH 6/13



2600 mg/kg

SDS#:

088465

zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis	LC50 Inhalation Dusts and mists	Rat - Male	>2 mg/l	1 hours	OECD 403
(dithiophosphate)	LD50 Dermal	Rabbit - Male, Female	>3160 mg/kg	-	OECD 402

Conclusion/Summary

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

Rat - Male

Irritation/Corrosion

Product/substance	Result	Species	Score	Exposure	Test
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis (dithiophosphate)	Skin - Irritant	Rabbit	-	4 hours	OECD 404
	Eyes - Irritant	Rabbit	-	-	-

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

LD50 Oral

Sensitization

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

Mutagenicity

Product/substance	Test	Experiment	Result
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis (dithiophosphate)	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 474	Experiment: In vivo Subject: Mammalian-Animal Cell: Somatic	Negative

Conclusion/Summary: Based on available data, the classification criteria are not met.

Carcinogenicity

Conclusion/Summary: Based on available data, the classification criteria are not met.

Reproductive toxicity

Product/substance	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis (dithiophosphate)	Negative	Negative	Negative	Rat - Male, Female	Oral	-

Conclusion/Summary: Based on available data, the classification criteria are not met.

Teratogenicity

Product/substance	Result	Species	Dose	Exposure
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis (dithiophosphate)	0	Rat - Male, Female	-	-

Conclusion/Summary: Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

 Date of revision
 : 2022/01/24
 1
 USA
 ENGLISH
 7/13



SDS #: 088465

Aspiration hazard

Name	Result
1 7, 3	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

Information on the likely

: Not available.

routes of exposure

Potential acute health effects

Eye contactInhalationNo known significant effects or critical hazards.No known significant effects or critical hazards.

Skin contact: Defatting to the skin. May cause skin dryness and irritation.

Ingestion: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact: Adverse symptoms may include the following:

irritation dryness cracking

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate

: Not available.

effects

Potential delayed effects : Not available.

Long term exposure

Potential immediate

: Not available.

effects

Potential delayed effects : Not available.

Potential chronic health effects

Product/substance	Result	Species	Dose	Exposure
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis (dithiophosphate)	Sub-chronic NOAEL Oral	Rat - Male, Female	160 mg/kg	-
	Sub-chronic LOAEL Dermal	Rabbit - Male, Female	70 mg/kg	-

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or

dermatitis.

Carcinogenicity : During use in engines, contamination of oil with low levels of combustion products

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

removed by washing with soap and water.

Mutagenicity : No known significant effects or critical hazards.Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

 Date of revision
 : 2022/01/24
 1
 USA
 ENGLISH
 8/13



SDS #: 088465

Acute toxicity estimates

Product/substance	Oral (mg/ kg)	Dermal (mg/kg)	(gases)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/ I)
RUBIA OPTIMA 1300 15W-40 zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis (dithiophosphate)	58204.4	57460.7	N/A	N/A	N/A
	2600	2500	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/substance	Result	Species	Exposure	Test
Distillates (petroleum), hydrotreated heavy paraffinic	Acute EC50 >100 mg/l	Algae - Pseudokirchnerella subcapitata	48 hours	OECD 201
,	Acute EC50 >10000 mg/l	Daphnia - Daphnia magna	48 hours	OECD 202
	Chronic NOEL 10 mg/l	Daphnia - Daphnia magna	21 days	-
	Chronic NOEL >1000 mg/l	Fish - Oncorhynchus mykiss	21 days	-
Distillates (petroleum), hydrotreated light paraffinic	Acute EC50 >100 mg/l	Algae - Pseudokirchnerella subcapitata	48 hours	OECD 201
, , , ,	Acute EC50 >10000 mg/l	Daphnia - Daphnia magna	48 hours	OECD 202
	Chronic NOEL 10 mg/l	Daphnia - Daphnia magna	21 days	OECD 211
	Chronic NOEL >1000 mg/l	Fish - Oncorhynchus mykiss	21 days	-
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis (dithiophosphate)	Acute EC50 2.1 mg/l	Algae - Selenastrum capricornutum	96 hours	OECD 201
(Acute EC50 5.4 mg/l Acute LC50 4.5 mg/l	Daphnia - Daphnia magna Fish	48 hours 96 hours	OECD 202 -

Persistence and degradability

Product/substance	Aquatic half-life	Photolysis	Biodegradability
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis (dithiophosphate)	-	-	Not readily

Bioaccumulative potential

Product/substance	LogKow	BCF	Potential
Distillates (petroleum), hydrotreated heavy paraffinic	>4	-	high
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis (dithiophosphate)	0.9	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) Mobility in soil : Not available.

: Given its physical and chemical characteristics, the product generally shows low soil mobility. The product is insoluble and floats on water. Loss by evaporation is limited

Date of revision : 2022/01/24 1 USA ENGLISH 9/13



SDS#: 088465

Other adverse effects

: No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers

Section 14. Transport information

	DOT Classification	IMDG	ICAO/IATA
UN/ID No	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.

Additional information

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according: Not available.

to IMO instruments

Section 15. Regulatory information

U.S. Federal regulations

: TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Clean Water Act (CWA) 307: zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis (dithiophosphate); Phosphorodithioic acid, mixed O,O-bis(sec-Bu and isooctyl) esters, zinc salts; Phosphorodithioic acid O,O-dialkyl(C=3-14) esters zinc salts

Clean Air Act Section 112 (b) Hazardous Air

Pollutants (HAPs)

Clean Air Act Section 602

Class I Substances

: Not listed

: Not listed

Date of revision USA **ENGLISH** : 2022/01/24 1 10/13



SDS#: 088465

Clean Air Act Section 602

Class II Substances

: Not listed

DEA List I Chemicals

: Not listed

(Precursor Chemicals)

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : HNOC - Defatting irritant

Composition/information on ingredients

Name	%	Classification
Distillates (petroleum), hydrotreated heavy paraffinic	<5	ASPIRATION HAZARD - Category 1
Distillates (petroleum), hydrotreated light paraffinic	<5	ASPIRATION HAZARD - Category 1
zinc bis[O-(6-methylheptyl)] bis [O-(sec-butyl)] bis (dithiophosphate)	≤3	SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1

SARA 313

	Product name	CAS number	%
I OIIII IX IXODOI IIIIG	zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis (dithiophosphate)	93819-94-4	≤3
Capplici lictilication	zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis (dithiophosphate)	93819-94-4	≤3

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: OIL MIST, MINERAL; OIL MIST, MINERAL;

MINERAL OIL, PETROLEUM DISTILLATES, HYDROTREATED LIGHT PARAFFINIC

New York : None of the components are listed.

New Jersey : The following components are listed: ZINC compounds **Pennsylvania** : The following components are listed: ZINC COMPOUNDS

California Prop. 65

To the best of our knowledge, this product does not contain any substances known to the State of California to cause cancer, developmental and/or reproductive harm

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Date of revision : 2022/01/24 1 USA **ENGLISH** 11/13



SDS #: 088465

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia inventory (AIIC)

Canada inventory (DSL/NDSL)

China inventory (IECSC)

Europe inventory (EINECS/ELINCS/NLP)

Japan inventory

New Zealand Inventory of Chemicals (NZIoC)

Philippines inventory (PICCS)

Korea inventory (KECI)

Taiwan Chemical Substances Inventory (TCSI)

Thailand inventory
Turkey inventory

United States inventory (TSCA 8b)

Vietnam inventory

: All components are listed or exempted.

: Japan inventory (CSCL): All components are listed or

exempted.

Japan inventory (ISHL): Not determined.

: All components are listed or exempted.

: Not determined.

: Not determined.

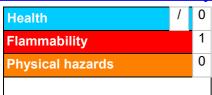
: All components are listed or exempted.

: Not determined.

The information stated in this section relates solely to the conformity of the chemical product with the countries Inventories. The information used to confirm the inventory status of this product may be based on additional data to the chemical composition shown in Section 3. Other regulations may apply for importation or marketing authorizations.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)



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Date of revision : 2022/01/24 1 USA ENGLISH 12/13



SDS #: 088465

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
Not classified.	

History

Date of revision : 2022/01/24

Date of previous revision : No previous validation

Version : 1

Key to abbreviations : ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973

as modified by the Protocol of 1978. ("Marpol" = marine pollution)

N/A = Not available

SGG = Segregation Group

UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Date of revision : 2022/01/24 1 USA ENGLISH 13/13