ROTOROIL F2

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	09/18/2020	000000010097	Date of first issue: 09/18/2020

SECTION 1. IDENTIFICATION

Product name:	ROTOROIL F2
Product Use Description:	Lubricant
Synonyms:	Synthetic Lubricant Formulation
Company:	Manufacturer V-LIFE Specialty Lubricants Groot Egtenrayseweg 23 5928 PA Venlo Netherlands Telephone: +31-77 396 0340 Supplier Mattei Compressors Inc. 9635 Liberty Rd Randallstown, MD 21133 United States of America (USA) Telephone: 410-521-7020
Emergency telephone num- ber:	CHEMTREC (24 hours) 800-424-9300 US : 800-292-5898 (Technical inquiries) For additional emergency telephone numbers see section 16 of the Safety Data Sheet.
Prepared by	Product Safety Department (US) +1 866-430-2775 MSDSRequest@lanxess.com

Recommended use of the chemical and restrictions on use

Recommended use	:	Lubricant
Restrictions on use	:	Reserved for industrial and professional use.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Short-term (acute) aquatic hazard : Category 3

Long-term (chronic) aquatic hazard : Category 3

GHS label elements

Hazard statements : H412 Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P273 Avoid release to the environment.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
Gas oils (petroleum), hydrodesulfurized	64742-79-6	>= 1 - < 5
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	>= 1 - < 5
N-1-naphthylaniline	90-30-2	>= 0.1 - < 1
triphenyl phosphate	115-86-6	>= 0.1 - < 1
diphenylamine	122-39-4	>= 0.1 - < 1

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice	:	Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled	:	Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion. If symptoms persist, call a physician.
In case of skin contact	:	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. If symptoms persist, call a physician.
In case of eye contact	:	Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. Obtain medical attention.
Most important symptoms and effects, both acute and delayed	:	None known.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific hazards during firefighting	:	Burning produces noxious and toxic fumes.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation.
Environmental precautions	:	Try to prevent the material from entering drains or water courses. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place.
Further information on storage stability	:	No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
N-1-naphthylaniline	90-30-2	TWA	10 ml/m3	ACGIH
triphenyl phosphate	115-86-6	TWA	3 mg/m3	ACGIH
		TWA	3 mg/m3	OSHA Z-1

		TWA	3 mg/m3	OSHA P0
		TWA	3 mg/m3	NIOSH REL
diphenylamine	122-39-4	TWA	10 mg/m3	ACGIH
		TWA	10 mg/m3	OSHA P0
		TWA	10 mg/m3	NIOSH REL

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Hand protection

Remarks : Polyvinyl alcohol or nitrile- butyl-rubber gloves The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. Before removing gloves clean them with soap and water.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : yellow

Odour : No data available

pH : No data available

Pour point	:	-31 °F / -35 °C
Boiling point/boiling range	:	No data available
Flash point	:	446 °F / 230 °C Method: ASTM D92
Flammability (liquids)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Density	:	0.956 g/cm3 (59 °F / 15 °C) Method: ASTM D 1298
Solubility(ies)		
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Viscosity		
Viscosity, kinematic	:	72.1 mm2/s (104 °F / 40 °C) Method: ASTM D 445 9.7 mm2/s (212 °F / 100 °C) Method: ASTM D 445
Oxidizing potential	:	No information available.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Stable under recommended storage conditions.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if used as directed.

Conditions to avoid	:	No data available Contamination
Incompatible materials	:	Strong acids and strong bases Strong oxidizing agents
Hazardous decomposition products	:	Carbon oxides Nitrogen oxides (NOx) Oxides of phosphorus

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Remarks: Not classified due to lack of data.
Acute inhalation toxicity	:	Remarks: Not classified due to lack of data. Acute toxicity estimate: > 200 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
Acute dermal toxicity	:	Remarks: Not classified due to lack of data. Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 401
Acute dermal toxicity	:	LD50 (Rat): > 2,000 mg/kg

N-1-naphthylaniline:

Acute oral toxicity	:	LD50 (Rat): 1,625 mg/kg

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

triphenyl phosphate:

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 200 mg/l Exposure time: 1 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rabbit, male and female): > 7,900 mg/kg

diphenylamine:

Acute oral toxicity	:	LD50 (Rat): 1,165 mg/kg
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg

Skin corrosion/irritation

Product:

Remarks	:	According to the classification criteria of the European Union, the product is not considered as being a skin irritant.

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

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

N-1-naphthylaniline:

Species	:	Rabbit
Method	:	Draize Test
Result	:	No skin irritation

triphenyl phosphate:

Species	:	Rabbit
Exposure time	:	4 h
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
GLP	:	yes

diphenylamine:

Species	:	Rabbit
Result	:	Mild skin irritation

Serious eye damage/eye irritation

Product:

Remarks : According to the classification criteria of the European Union, the product is not considered as being an eye irritant.

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

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

N-1-naphthylaniline:

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

triphenyl phosphate:

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

diphenylamine:

Species : Rabbit
Result : Eye irritation

Respiratory or skin sensitisation

Product:

Remarks : May cause sensitisation of susceptible persons.

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Species : Guinea pig
Assessment : Did not cause sensitisation on laboratory animals.
Method : OECD Test Guideline 406

N-1-naphthylaniline:

Test Type : Maximisation Test
Species : Guinea pig

Result	:	Probability or evidence of low to moderate skin sensitisation rate in humans
Test Type	:	Patch Test
Species	:	Humans
Result	:	Probability or evidence of low to moderate skin sensitisation rate in humans
Test Type	:	Maximisation Test
Species	:	Guinea pig
Result	:	Probability or evidence of low to moderate skin sensitisation rate in humans

triphenyl phosphate:

Test Type	:	Maximisation Test
Species	:	Guinea pig
Assessment	:	Did not cause sensitisation on laboratory animals.
Method	:	OECD Test Guideline 406
GLP	:	yes

diphenylamine:

Species	:	Guinea pig
Result	:	Does not cause skin sensitisation.

Germ cell mutagenicity

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Germ cell mutagenicity - Assessment	:	Not mutagenic in Ames Test

N-1-naphthylaniline:

Genotoxicity in vitro	:	Test Type: Ames test Metabolic activation: with and without metabolic activation Result: negative Test Type: Chinese Hamster Ovary (CHO) Metabolic activation: with and without metabolic activation Result: negative

Genotoxicity in vivo	:	Test Type: in vivo assay Species: Mouse (male) Result: negative
Germ cell mutagenicity - Assessment	:	Animal testing did not show any mutagenic effects., Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

triphenyl phosphate:

Genotoxicity in vitro	:	Test Type: Ames test Metabolic activation: with and without metabolic activation Result: negative Test Type: in vitro assay Metabolic activation: with and without metabolic activation Result: negative Test Type: Unscheduled DNA synthesis (UDS) Result: negative
Germ cell mutagenicity - Assessment	:	In vitro tests did not show mutagenic effects

diphenylamine:

Germ cell mutagenicity - Assessment	:	Animal testing did not show any mutagenic effects.

Carcinogenicity

Components:

N-1-naphthylaniline:

Carcinogenicity - Assessment	:	Animal testing did not show any carcinogenic effects.

triphenyl phosphate:

Carcinogenicity - Assessment	:	Animal testing did not show any carcinogenic effects.

diphenylamine:

Carcinogenicity - Assessment	:	Not classifiable as a human carcinogen.

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

Components:

triphenyl phosphate:

Reproductive toxicity - Assessment	:	No toxicity to reproduction

diphenylamine:

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

STOT - repeated exposure

Components:

N-1-naphthylaniline:

Exposure routes	:	Oral
Target Organs	:	Liver, Kidney
Assessment	:	May cause damage to organs through prolonged or repeated exposure.

triphenyl phosphate:

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

Repeated dose toxicity

Components:

diphenylamine:

Species	:	Mouse, male
NOAEL	:	1.7 mg/kg
LOAEL	:	93.8 mg/kg
Application Route	:	Oral
Exposure time	:	90 d
Target Organs	:	Blood, Liver, Kidney
Species	:	Mouse, female
NOAEL	:	2.1 mg/kg
LOAEL	:	107 mg/kg
Application Route	:	Oral
Exposure time	:	90 d
Target Organs	:	Blood, Liver, Kidney

Aspiration toxicity

Product:

No aspiration toxicity classification

Further information

Product:

Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : Remarks: No data available

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

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): > 71 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 51 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae	:	EbC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

Ecotoxicology Assessment

Chronic aquatic toxicity	:	No toxicity at the limit of solubility, This product has no known ecotoxicological effects.

N-1-naphthylaniline:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0.44 mg/l Exposure time: 96 h Test Type: semi-static test Analytical monitoring: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.68 mg/l Exposure time: 48 h Test Type: semi-static test Analytical monitoring: yes
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.02 mg/l Exposure time: 21 d Analytical monitoring: yes
M-Factor (Chronic aquatic toxicity)	:	1
Toxicity to microorganisms	:	EC50 (Protozoa): 2 mg/l Exposure time: 48 h EC50 (Bacteria): > 10,000 mg/l Exposure time: 3 h

triphenyl phosphate:

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.78 mg/l Exposure time: 96 h Test Type: static test LC50 (Oryzias latipes (Orange-red killifish)): 1.2 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 EC50: 0.36 mg/l Exposure time: 48 h
Toxicity to algae	:	NOEC (Green algae (Scenedesmus subspicatus)): 0.25 - 2.5 mg/l End point: Growth rate Exposure time: 72 h Test Type: Growth inhibition Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 0.037 mg/l Exposure time: 30 d

diphenylamine:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 2.2 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 1.2 mg/l Exposure time: 48 h

Persistence and degradability

Product:

Biodegradability	:	Result: No data available

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Biodegradability	:	Result: According to the results of tests of biodegradability this product is not readily biodegradable. Method: CO2 Evolution Test

N-1-naphthylaniline:

Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 100 mg/l
Result: According to the results of tests of biodegradability this product is not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301
GLP: yes

triphenyl phosphate:

Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 100 mg/l
Result: Readily biodegradable.
Biodegradation: 83 - 94 %
Exposure time: 28 d
Method: OECD Test Guideline 301

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Components:

Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene:

Partition coefficient: n-octanol/water : log Pow: > 7

N-1-naphthylaniline:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 427 - 2,730
Exposure time: 56 d
Temperature: 77 °F / 25 °C
Concentration: 0.1 mg/l

Partition coefficient: n-octanol/water : log Pow: 4.28

triphenyl phosphate:

Bioaccumulation	:	Species: Oryzias latipes (Orange-red killifish) Bioconcentration factor (BCF): 144 Exposure time: 18 d Temperature: 77 °F / 25 °C Concentration: 0.01 mg/l
Partition coefficient: n-octanol/water	:	log Pow: 4.59 - 4.76

Mobility in soil

Product:

Mobility	:	Remarks: No data available

Other adverse effects

Product:

Results of PBT and vPvB assessment	:	This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).
Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
Not regulated as a dangerous good

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.

National Regulations

49 CFR
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

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

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

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 Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

n-Butene, homopolymer	9003-29-6	>= 1 - < 5 %

California Prop. 65

WARNING: This product can expose you to chemicals including 1-naphthylamine, aniline, 2-naphthylamine, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Please note that Section 3 of this document lists only the hazardous components required by the specific country or region hazard communication regulations. The chemical identifiers listed in Section 3 are used globally for hazard communication purposes and may not reflect those used for chemical inventory coverage in a particular country or region. The chemical inventory information given in Section 15 of this document applies to the product as a whole and should be used when evaluating inventory compliance.

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

DSL	:	This product contains the following components listed on the Canadian NDSL. All other components are on the Canadian DSL.
AICS	:	On the inventory, or in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory

PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
TCSI	:	Not in compliance with the inventory
US.TSCA	:	All substances listed as active on the TSCA inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

Other Emergency Phone Number

Latin America:	Brazil	+55 11 3197 5891
	All other countries	+44 (0) 1235 239 670
Mexico:		+52 55 5004 8763

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / TWA	:	Time-Weighted Average Limit (TWA)
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
OSHA P0 / TWA	:	8-hour time weighted average
OSHA Z-1 / TWA	:	8-hour time weighted average

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensa- tion, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration asso- ciated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Har- monized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dan- gerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - In- ternational Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Indus- trial 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; MSHA - Mine Safety and Health Admin- istration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC
- No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Develop- ment; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumu- lative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substanc- es; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Sub- stance 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

Revision Date : 07/15/2019

The information provided in this Safety Data Sheet is correct to the best of our knowledge, info r- mation and belief at the date of its publication. The information given is designed only as a guid- ance 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.

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