SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

LEADER CEREALS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.4	20.03.2024	50001129	Date of first issue: 27.07.2018

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name LEADER CEREALS

Other means of identification

Product code 50001129

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

Use of the Sub-stance/Mixture : A fertilizer with micronutrients for use in agriculture

Recommended restrictions on use : Use as recommended by the label.

1.3 Details of the supplier of the safety data sheet

1.3 Details of the supplier of the safety data sheet

Supplier Address

FMC Agro Limited
Rectors Lane, Pentre
Flintshire
CH5 2DH
United Kingdom

Telephone: + 44 1244 537370
E-mail address: SDS-Info@fmc.com .

1.4 Emergency telephone number

For leak, fire, spill or accident emergencies, call:
England and Wales: 44-870-8200418 (CHEMTREC)

Medical emergency:
England and Wales: 111
Scotland: 84 54 24 2424

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms :

Signal word : Warning

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

Supplemental Hazard Statements : EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements :

Prevention:

P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.

Response:

P391 Collect spillage.

Disposal:

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

Hazardous components which must be listed on the label:

dicopper chloride trihydroxide
ethanediol

Additional Labelling

EUH208 Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
manganese carbonate	598-62-9 209-942-9	Aquatic Chronic 2; H411	>= 30 - < 50
zinc oxide	1314-13-2 215-222-5 030-013-00-7	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 --- M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 10	>= 10 - < 20
dicopper chloride trihydroxide	1332-65-6 215-572-9 029-017-00-1	Acute Tox. 3; H301 Acute Tox. 4; H332 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 --- M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 2.5 - < 10
ethanediol	107-21-1 203-473-3 603-027-00-1	Acute Tox. 4; H302 STOT RE 2; H373 (Kidney)	>= 1 - < 10
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 2; H411 --- M-Factor (Acute aquatic toxicity): 10 --- specific concentration limit Skin Sens. 1; H317 >= 0.05 %	>= 0.001 - <= 0.01

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing
Avoid inhalation, ingestion and contact with skin and eyes.
If potential for exposure exists refer to Section 8 for specific personal protective equipment.

If inhaled : Move to fresh air.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : Take off all contaminated clothing immediately.
Wash contaminated clothing before re-use.
Wash off immediately with plenty of water for at least 15 minutes.
Get medical attention if irritation develops and persists.

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 : Do not induce vomiting without medical advice.
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

Risks : None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Dry chemical, CO2, water spray or regular foam.

Unsuitable extinguishing media	:	High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Fire may produce irritating, corrosive and/or toxic gases. Carbon oxides

5.3 Advice for firefighters

Special protective equipment for firefighters	:	Firefighters should wear protective clothing and self-contained breathing apparatus.
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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Use personal protective equipment. Never return spills in original containers for re-use. Mark the contaminated area with signs and prevent access to unauthorized personnel. Only qualified personnel equipped with suitable protective equipment may intervene. For disposal considerations see section 13.

6.2 Environmental precautions

Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for 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.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
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.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : When using do not eat or drink. When using do not smoke.
Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Recommended storage temperature : > 5 °C

Further information on storage stability : No decomposition if stored and applied as directed.
Do not freeze.

7.3 Specific end use(s)

Specific use(s) : Fertilizers

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
manganese carbonate	598-62-9	TWA (Inhalable)	0.2 mg/m3 (Manganese)	GB EH40
		TWA (Respirable fraction)	0.05 mg/m3 (Manganese)	GB EH40
		TWA (inhalable fraction)	0.2 mg/m3 (Manganese)	2017/164/EU
	Further information: Indicative			

		TWA (Respirable fraction)	0.05 mg/m3 (Manganese)	2017/164/EU
	Further information: Indicative			
dicopper chloride trihydroxide	1332-65-6	TWA (Dusts and mists)	1 mg/m3 (Copper)	GB EH40
		STEL (Dusts and mists)	2 mg/m3 (Copper)	GB EH40
ethanediol	107-21-1	TWA (Vapour)	20 ppm 52 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		TWA (particles)	10 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL (Vapour)	40 ppm 104 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	40 ppm 104 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		TWA	20 ppm 52 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			

Predicted No Effect Concentration (PNEC):

Substance name	Environmental Compartment	Value
dicopper chloride trihydroxide	Fresh water	0.0078 mg/l
	Marine water	0.0052 mg/l
	Sewage treatment plant	0.23 mg/l
	Fresh water sediment	87 mg/kg dry weight (d.w.)
	Marine sediment	676 mg/kg dry weight (d.w.)

8.2 Exposure controls

Personal protective equipment

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

Hand protection
Material : Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Respiratory protection	:	No personal respiratory protective equipment normally required.
Protective measures	:	Plan first aid action before beginning work with this product. Always have on hand a first-aid kit, together with proper instructions. Ensure that eye flushing systems and safety showers are located close to the working place. Wear suitable protective equipment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Colour	:	green
Odour	:	Barely perceptible
Odour Threshold	:	No data available
pH	:	8.0 - 9.0 Concentration: 100 %
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	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
Relative vapour density	:	No data available
Relative density	:	1.76 - 1.83
Density	:	No data available
Bulk density	:	No data available

Solubility(ies)
Water solubility : dispersible

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 : 2,000 - 4,500 mPa,s

Viscosity, kinematic : No data available

Explosive properties : No data available

Oxidizing properties : Non-oxidizing

9.2 Other information

Particle size : 4 - 11 µm

Particle Size Distribution : No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

10.4 Conditions to avoid

Conditions to avoid : Avoid extreme temperatures
Protect from frost, heat and sunlight.

10.5 Incompatible materials

Materials to avoid : Avoid strong acids, bases, and oxidizers

10.6 Hazardous decomposition products

Toxic fumes

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

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

Product:

Acute oral toxicity	:	Acute toxicity estimate: 1,927 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

Components:

manganese carbonate:

Acute oral toxicity	:	LD0 (Rat, female): > 2,000 mg/kg Method: OECD Test Guideline 420 Remarks: no mortality
Acute inhalation toxicity	:	LC0 (Rat, male and female): > 5.35 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Remarks: no mortality Based on data from similar materials

zinc oxide:

Acute oral toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg Method: OECD Test Guideline 423 LD50 (Mouse, male and female): > 2,000 mg/kg Method: OECD Test Guideline 401 Target Organs: Liver, Heart, spleen, Stomach, Pancreas Symptoms: Damage Remarks: mortality
Acute inhalation toxicity	:	LC0 (Rat, male and female): > 1.79 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: EPA OPP 81 - 3 Remarks: no mortality
Acute dermal toxicity	:	LD50 Dermal (Rat, male and female): > 2,000 mg/kg Method: OECD Test Guideline 402

dicopper chloride trihydroxide:

Acute oral toxicity : LD50 (Rat, male): 1,083 mg/kg
Method: OECD Test Guideline 401

LD50 (Rat, female): 950 mg/kg
Method: US EPA Test Guideline OPP 81-1

Acute inhalation toxicity : LC50 (Rat, male): 2.83 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Symptoms: Fatality

LC50 (Rat, female): > 2.77 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Symptoms: Fatality

Acute dermal toxicity : LD50 (Rabbit, female): > 2,000 mg/kg
Method: US EPA Test Guideline OPP 81-2
Symptoms: Fatality

LD0 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
Remarks: no mortality

ethanediol:

Acute inhalation toxicity : LC0 (Rat, male and female): > 2.5 mg/l
Exposure time: 6 h
Test atmosphere: dust/mist
Remarks: no mortality

Acute dermal toxicity : LD50 (Mouse, male and female): > 3,500 mg/kg

1,2-benzisothiazol-3(2H)-one:

Acute oral toxicity : LD50 (Rat, male and female): 490 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

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

Product:

Remarks : No data available

Components:

manganese carbonate:

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

zinc oxide:

Species	:	reconstructed human epidermis (RhE)
Method	:	OECD Test Guideline 431
Result	:	No skin irritation

dicopper chloride trihydroxide:

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

ethanediol:

Species	:	Rabbit
Result	:	No skin irritation

1,2-benzisothiazol-3(2H)-one:

Species	:	Rabbit
Exposure time	:	72 h
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

Serious eye damage/eye irritation

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

Product:

Remarks	:	No data available

Components:

manganese carbonate:

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

zinc oxide:

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

dicopper chloride trihydroxide:

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

ethanediol:

Species : Rabbit
Result : No eye irritation

1,2-benzisothiazol-3(2H)-one:

Species : Bovine cornea
Method : OECD Test Guideline 437
Result : No eye irritation

Species : Rabbit
Method : EPA OPP 81-4
Result : Irreversible effects on the eye

Respiratory or skin sensitisation

Skin sensitisation

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

Respiratory sensitisation

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

Product:

Remarks : No data available

Components:

manganese carbonate:

Test Type : Local lymph node test
Species : Mouse
Method : OECD Test Guideline 429
Result : Does not cause skin sensitisation.
Remarks : Based on data from similar materials

zinc oxide:

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

Test Type : Maximisation Test
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Substance is not considered to be potential skin sensitiser.

dicopper chloride trihydroxide:

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

ethanediol:

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

1,2-benzisothiazol-3(2H)-one:

Test Type	:	Maximisation Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	May cause sensitisation by skin contact.
Species	:	Guinea pig
Method	:	FIFRA 81.06
Result	:	May cause sensitisation by skin contact.

Germ cell mutagenicity

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

Components:

manganese carbonate:

Genotoxicity in vitro	:	Test Type: reverse mutation assay Method: OECD Test Guideline 471 Result: negative Remarks: Based on data from similar materials Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 Result: negative Remarks: Based on data from similar materials Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative Remarks: Based on data from similar materials
Genotoxicity in vivo	:	Test Type: Micronucleus test Species: Mouse (female) Application Route: Oral Method: OECD Test Guideline 474 Result: negative Remarks: Based on data from similar materials
Germ cell mutagenicity- Assessment	:	Weight of evidence does not support classification as a germ cell mutagen.

zinc oxide:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: equivocal

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster fibroblasts
Method: OECD Test Guideline 473
Result: negative

Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Result: positive

Test Type: Micronucleus test
Test system: Human epithelioid cells
Method: OECD Test Guideline 487
Result: negative

Test Type: Micronucleus test
Test system: Human lymphocytes
Result: positive

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse (male)
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

dicopper chloride trihydroxide:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Application Route: Oral
Method: Mutagenicity (micronucleus test)
Result: negative

Test Type: DNA binding study
Species: Rat (male)
Application Route: Oral
Result: negative

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

ethanediol:

Genotoxicity in vitro	:	Test Type: reverse mutation assay Method: OPPTS 870.5100 Result: negative
Genotoxicity in vivo	:	Test Type: dominant lethal test Species: Rat Application Route: Oral Result: negative

1,2-benzisothiazol-3(2H)-one:

Genotoxicity in vitro	:	Test Type: gene mutation test Test system: mouse lymphoma cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative Test Type: Ames test Method: OECD Test Guideline 471 Result: negative Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 Result: positive
Genotoxicity in vivo	:	Test Type: unscheduled DNA synthesis assay Species: Rat (male) Cell type: Liver cells Application Route: Ingestion Exposure time: 4 h Method: OECD Test Guideline 486 Result: negative Test Type: Micronucleus test Species: Mouse Application Route: Oral Method: OECD Test Guideline 474 Result: negative
Germ cell mutagenicity- Assessment	:	Weight of evidence does not support classification as a germ cell mutagen.

Carcinogenicity

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

Components:

zinc oxide:

Species	:	Mouse, male and female
Application Route	:	Oral

Exposure time	:	1 year
Dose	:	4400, 22000 mg/l
NOAEL	:	> 22,000 mg/l
Result	:	negative
Remarks	:	Based on data from similar materials
Carcinogenicity - Assessment	:	Animal testing did not show any carcinogenic effects.

ethanediol:

Species	:	Mouse
Application Route	:	Oral
Exposure time	:	24 month(s)
Result	:	negative

Reproductive toxicity

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

Components:

manganese carbonate:

Effects on fertility	:	Test Type: Two-generation study Species: Rat, male and female Application Route: inhalation (dust/mist/fume) Dose: 0, .005, .01, .02 mg/L General Toxicity - Parent: NOEL: 0.02 mg/l Method: OECD Test Guideline 416 Result: negative Remarks: Based on data from similar materials
Effects on foetal development	:	Species: Rat Application Route: inhalation (dust/mist/fume) Duration of Single Treatment: 15 d General Toxicity Maternal: NOAEL: 0.025 mg/L Developmental Toxicity: LOAEL: 0.025 mg/L Embryo-foetal toxicity: NOAEL: 0.025 mg/L Method: OECD Test Guideline 414 Result: negative Remarks: Based on data from similar materials
Reproductive toxicity - Assessment	:	Weight of evidence does not support classification for reproductive toxicity

zinc oxide:

Effects on fertility	:	Test Type: Two-generation study Species: Rat, male and female Application Route: Oral Dose: 7.5, 15, 30mg/kg bw/day Frequency of Treatment: 7 days/week General Toxicity - Parent: LOAEL: 7.5 mg/kg body weight General Toxicity F1: LOAEL: 30 mg/kg body weight

Method: OECD Test Guideline 416
Result: negative
Remarks: Based on data from similar materials

Test Type: one-generation reproductive toxicity
Species: Rat, male
Application Route: Oral
Dose: 4,000 milligram per liter
Frequency of Treatment: 32 daily
General Toxicity - Parent: LOAEL: 4,000 mg/l
General Toxicity F1: LOAEL: 4,000 mg/l
Symptoms: Reduced fertility
Target Organs: male reproductive organs
Result: positive
Remarks: Based on data from similar materials

Effects on foetal development : Species: Rat
Application Route: inhalation (dust/mist/fume)
Dose: .0003, 0.002, 0.008 milligram per liter
Duration of Single Treatment: 14 d
General Toxicity Maternal: LOAEC: 0.008 mg/L
Developmental Toxicity: NOAEC: 0.008 mg/L
Embryo-foetal toxicity: NOAEC Mating/Fertility: 0.008 mg/L
Method: OECD Test Guideline 414
Result: negative

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

dicopper chloride trihydroxide:

Effects on fertility : Test Type: Two-generation study
Species: Rat, male and female
Dose: 0, 100, 500, 1000, 1500 parts per million
General Toxicity - Parent: LOAEL: 1,500
General Toxicity F1: LOAEL: 1,500
General Toxicity F2: LOAEL: 1,500
Method: OECD Test Guideline 416
Result: negative

Effects on foetal development : Test Type: reproductive and developmental toxicity study
Species: Rat
Application Route: Oral
Dose: 0, 100, 500, 1000, 1500 parts per million
Duration of Single Treatment: 70 d
General Toxicity Maternal: LOAEL: 1,500 part per million
Embryo-foetal toxicity: LOAEL: 1,500 part per million
Method: OECD Test Guideline 416
Result: negative

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

1,2-benzisothiazol-3(2H)-one:

Effects on fertility : Species: Rat, male
Application Route: Ingestion
General Toxicity - Parent: NOAEL: 18.5 mg/kg body weight
General Toxicity F1: NOAEL: 48 mg/kg body weight
Fertility: NOAEL: 112 mg/kg bw/day
Symptoms: No effects on reproduction parameters
Method: OPPTS 870.3800
Result: negative

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

STOT - single exposure

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

Components:

manganese carbonate:

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

dicopper chloride trihydroxide:

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

STOT - repeated exposure

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

Components:

zinc oxide:

Exposure routes : Oral
Target Organs : Central nervous system, Reproductive organs
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

ethanediol:

Exposure routes : Oral
Target Organs : Kidney
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

1,2-benzisothiazol-3(2H)-one:

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

Repeated dose toxicity

Components:

manganese carbonate:

Species	:	Rabbit, male
LOAEC	:	0.0039 mg/l
Application Route	:	Inhalation
Test atmosphere	:	dust/mist
Exposure time	:	4 - 6 weeks
Dose	:	0, .001, .0039 mg/L
Remarks	:	Based on data from similar materials

zinc oxide:

Species	:	Rat, male and female
NOAEL	:	31.52 mg/kg
LOAEL	:	127.52 mg/kg
Application Route	:	Oral
Exposure time	:	13 weeks
Dose	:	0, 31.52, 127.52 mg/kg
Method	:	OECD Test Guideline 408
Target Organs	:	Pancreas
Symptoms	:	Necrosis
Remarks	:	Based on data from similar materials

Species	:	Mouse, male and female
NOEL	:	3000 ppm
Application Route	:	Oral
Exposure time	:	13 weeks
Dose	:	0, 300, 3000, 30000 ppm
Method	:	OECD Test Guideline 408
Remarks	:	Based on data from similar materials

Species	:	Rat, male
LOAEL	:	0.0045 mg/l
Application Route	:	inhalation (dust/mist/fume)
Exposure time	:	3 months
Dose	:	0.0003, 0.0015, 0.004mg/l
Method	:	OECD Test Guideline 413
Target Organs	:	Lungs
Remarks	:	mortality

Species	:	Rat, male and female
LOAEL	:	75 mg/kg bw/day
Application Route	:	Dermal
Exposure time	:	28d
Dose	:	0, 75, 180, 360 mg/kg bw/day
Method	:	OECD Test Guideline 410

dicopper chloride trihydroxide:

Species	:	Rat, male and female
NOAEL	:	1000 ppm

LOAEL	:	2000 ppm
Application Route	:	Oral - feed
Exposure time	:	92 d
Dose	:	0,500,1000,2000,4000,8000 ppm

Species	:	Rat, male and female
NOAEL	:	>= 2 mg/m3
Application Route	:	Inhalation
Test atmosphere	:	dust/mist
Exposure time	:	28 d
Dose	:	0.2,0.4,0.8,2 mg/m3
Method	:	OECD Test Guideline 412

ethanediol:

Species	:	Rat
NOAEL	:	150 mg/kg
Application Route	:	Oral
Exposure time	:	12 Months

Species	:	Dog
NOAEL	:	> 2,200 - < 4,400 mg/kg
Application Route	:	Dermal
Exposure time	:	4 Weeks
Method	:	OECD Test Guideline 410

1,2-benzisothiazol-3(2H)-one:

Species	:	Rat, male and female
NOAEL	:	15 mg/kg
Application Route	:	Ingestion
Exposure time	:	28 d
Method	:	OECD Test Guideline 407
Symptoms	:	Irritation

Species	:	Rat, male and female
NOAEL	:	69 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 d
Symptoms	:	Irritation, Reduced body weight

Aspiration toxicity

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

Experience with human exposure

Components:

zinc oxide:

Inhalation	:	Symptoms: Fatigue, Sweating, bitter taste, chills, dry mouth, flu-like symptoms
Ingestion	:	Symptoms: Gastrointestinal discomfort

Further information

Product:

Remarks : No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:

manganese carbonate:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 3.17 mg/l Exposure time: 96 h Test Type: flow-through test Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 3.6 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): > 2.2 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Pseudokirchneriella subcapitata (green algae)): 0.69 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to microorganisms	:	NOEC (activated sludge): 1,000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials EC50 (activated sludge): > 1,000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials
Toxicity to fish (Chronic toxicity)	:	NOEC: 0.55 mg/l Exposure time: 65 d Species: Salvelinus fontinalis (Brook trout) Test Type: flow-through test Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 1.3 mg/l Exposure time: 8 d Species: Ceriodaphnia dubia (water flea)

Test Type: static test
Remarks: Based on data from similar materials

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 : LC50 (Daphnia magna (Water flea)): 0.76 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

LC50 : 0.37 mg/l
Exposure time: 96 h
Test Type: static test

EC50 : 0.14 mg/l
Exposure time: 24 h
Test Type: static test

EC50 : 0.072 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to algae/aquatic plants : IC50 (Pseudokirchneriella subcapitata (algae)): 0.044 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (algae)): 0.024 mg/l
Exposure time: 3 d
Method: OECD Test Guideline 201

IC50 (Skeletonema costatum (marine diatom)): 1.23 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

IC50 : 3.28 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

NOEC (Dunaliella tertiolecta (marine algae)): 0.01 mg/l
Exposure time: 4 d
Test Type: static test

EC50 (Dunaliella tertiolecta (marine algae)): 0.65 mg/l
Exposure time: 4 d
Test Type: static test

(Chlorella vulgaris (Fresh water algae)): 1.16 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

EC50 (Anabaena flos-aquae (cyanobacterium)): 0.3 mg/l
Exposure time: 96 h
Test Type: static test

EC50 : 0.69 mg/l
Exposure time: 3 d
Test Type: static test

EC50 (Phaeodactylum tricornutum): 1.12 mg/l
Exposure time: 24 h
Test Type: static test

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

EC50 (Tetrahymena pyriformis): 7.1 mg/l
Exposure time: 24 h
Test Type: Growth inhibition

Toxicity to fish (Chronic toxicity) : NOEC: 0.440 mg/l
Exposure time: 72 d
Species: Oncorhynchus mykiss (rainbow trout)
Test Type: flow-through test
Remarks: Based on data from similar materials

NOEC: 0.026 mg/l
Exposure time: 30 d
Species: Jordanella floridae (flagfish)
Method: OECD Test Guideline 210
Remarks: Based on data from similar materials

NOEC: 0.530 mg/l
Exposure time: 1,095 d
Species: Salvelinus fontinalis (Brook trout)
Test Type: flow-through test
Remarks: Based on data from similar materials

NOEC: 0.056 mg/l
Exposure time: 116 d
Species: Salmo trutta (brown trout)
Method: OECD Test Guideline 210
Remarks: Based on data from similar materials

NOEC: 0.025 mg/l
Exposure time: 27 d
Species: Fish
Test Type: semi-static test
Remarks: Based on data from similar materials

NOEC: 0.078 mg/l
Exposure time: 248 d
Species: Pimephales promelas (fathead minnow)
Test Type: flow-through test
Remarks: Based on data from similar materials

NOEC: 0.050 mg/l
Exposure time: 155 d
Species: Fish
Test Type: flow-through test
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : LOEC: 0.125 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 10

Toxicity to soil dwelling organisms : NOEC: 750 mg/kg
Exposure time: 21 d
Species: Eisenia fetida (earthworms)

dicopper chloride trihydroxide:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 0.0384 mg/l
Exposure time: 96 h
Test Type: flow-through test
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.0338 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

LC50 (Ceriodaphnia dubia (water flea)): 0.014 mg/l
Exposure time: 48 h
Test Type: semi-static test

Toxicity to algae/aquatic plants : NOEC (Phaeodactylum tricornutum): 0.0057 mg/l
Exposure time: 72 h
Method: ISO 10253

NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.0157 mg/l
Exposure time: 72 h
Test Type: static test

EC50 (Chlamydomonas reinhardtii (green algae)): 0.047 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (algae)): 0.0194 mg/l

Exposure time: 72 h
Test Type: static test

NOEC (Skeletonema costatum (Diatom)): 0.00754 mg/l
Exposure time: 72 h
Test Type: static test

NOEC (Chlamydomonas reinhardtii (green algae)): 0.022 mg/l
Exposure time: 10 d
Test Type: flow-through test

NOEC (Lemna minor (duckweed)): 0.030 mg/l
Exposure time: 7 d
Test Type: static test

M-Factor (Acute aquatic toxicity) : 10

Toxicity to microorganisms : EC50 (Bacteria): 0.025 mg/l
Exposure time: 100 d

NOEC (Tetrahymena pyriformis): 3.563 mg/l
Exposure time: 48 h
Test Type: Growth inhibition

NOEC (activated sludge): 0.26 - 0.29 mg/l
Exposure time: 30 d
Test Type: Respiration inhibition

M-Factor (Chronic aquatic toxicity) : 10

Toxicity to soil dwelling organisms : NOEC: 25 mg/kg
Exposure time: 6 Weeks
Species: worms

Toxicity to terrestrial organisms : LD50: 1,400 mg/kg
Exposure time: 14 d
Species: Colinus virginianus (Bobwhite quail)

ethanediol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 72,860 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : IC50 (Pseudokirchneriella subcapitata (green algae)): 10,940 mg/l
Exposure time: 96 h

Toxicity to microorganisms	:	(activated sludge): > 1,995 mg/l Exposure time: 30 min Method: ISO 8192
Toxicity to fish (Chronic toxicity)	:	1,500 mg/l Exposure time: 28 d Species: Menidia peninsulae (tidewater silverside)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	33,911 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)

1,2-benzisothiazol-3(2H)-one:

Toxicity to fish	:	LC50 (Cyprinodon variegatus (sheepshead minnow)): 16.7 mg/l Exposure time: 96 h Test Type: static test LC50 (Oncorhynchus mykiss (rainbow trout)): 2.15 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 2.9 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)): 0.070 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Pseudokirchneriella subcapitata (green algae)): 0.04 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to microorganisms	:	EC50 (activated sludge): 24 mg/l Exposure time: 3 h Test Type: Respiration inhibition Method: OECD Test Guideline 209 EC50 (activated sludge): 12.8 mg/l Exposure time: 3 h Test Type: Respiration inhibition Method: OECD Test Guideline 209

12.2 Persistence and degradability

Components:

dicopper chloride trihydroxide:

Biodegradability : Remarks: Not readily biodegradable.

ethanediol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 90 - 100 %
Exposure time: 10 d
Method: OECD Test Guideline 301A

1,2-benzisothiazol-3(2H)-one:

Biodegradability : Result: rapidly biodegradable
Method: OECD Test Guideline 301C

12.3 Bioaccumulative potential

Components:

zinc oxide:

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)
Exposure time: 14 d
Bioconcentration factor (BCF): 2,060

dicopper chloride trihydroxide:

Bioaccumulation : Remarks: Not applicable due to the insolubility of the salt.

ethanediol:

Partition coefficient: n-octanol/water : log Pow: -1.36

1,2-benzisothiazol-3(2H)-one:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Exposure time: 56 d
Bioconcentration factor (BCF): 6.62
Method: OECD Test Guideline 305
Remarks: Substance is not persistent, bioaccumulative, and toxic (PBT).

Partition coefficient: n-octanol/water : log Pow: 0.7 (20 °C)
pH: 7

log Pow: 0.99 (20 °C)
pH: 5

12.4 Mobility in soil

Components:

dicopper chloride trihydroxide:

Distribution among environmental compartments : Remarks: Low mobility in soil

1,2-benzisothiazol-3(2H)-one:

Distribution among environmental compartments : Koc: 9.33 ml/g, log Koc: 0.97
Method: OECD Test Guideline 121
Remarks: Highly mobile in soils

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Product:

Endocrine disrupting potential : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : 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.
Send to a licensed waste management company.

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

SECTION 14: Transport information

14.1 UN number

ADN	:	UN 3082
ADR	:	UN 3082
RID	:	UN 3082
IMDG	:	UN 3082
IATA	:	UN 3082

14.2 UN proper shipping name

ADN	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc oxide, dicopper chloride trihydroxide)
ADR	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc oxide, dicopper chloride trihydroxide)
RID	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc oxide, dicopper chloride trihydroxide)
IMDG	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc oxide, dicopper chloride trihydroxide)
IATA	:	Environmentally hazardous substance, liquid, n.o.s. (Zinc oxide, dicopper chloride trihydroxide)

14.3 Transport hazard class(es)

		Class	Subsidiary risks
ADN	:	9	
ADR	:	9	
RID	:	9	
IMDG	:	9	
IATA	:	9	

14.4 Packing group

ADN

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9

ADR

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90

Labels	:	9
Tunnel restriction code	:	(-)

RID

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9

IMDG

Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F

IATA (Cargo)

Packing instruction (cargo aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous

IATA (Passenger)

Packing instruction (passenger aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous

14.5 Environmental hazards

ADN

Environmentally hazardous	:	yes

ADR

Environmentally hazardous	:	yes

RID

Environmentally hazardous	:	yes

IMDG

Marine pollutant	:	yes

IATA (Passenger)

Environmentally hazardous	:	yes

IATA (Cargo)

Environmentally hazardous	:	yes

14.6 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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17)	:	Conditions of restriction for the following entries should be considered: Number on list 3 ethanediol (Number on list 3) dodecylbenzenesulphonic acid, compound with isopropylamine (1:1) (Number on list 3)
UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation	:	Not applicable
The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain)	:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
UK REACH List of substances subject to authorisation (Annex XIV)	:	Not applicable

Control of Major Accident Hazards Regulations 2015 (COMAH)	E1	ENVIRONMENTAL HAZARDS
	E1	

Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to new and expectant mothers at work contained in Regulation 16 to 18) and of the Pregnant Workers Directive 92/85/EEC.

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

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

TCSI	:	Not in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on TSCA inventory.
AIIC	:	Not in compliance with the inventory
DSL	:	This product contains the following components that are not

		on the Canadian DSL nor NDSL. Sodium Polyacrylate Homopolymer emulsion of silicone PREVENTOL BP sodium acrylate
ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	Not in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not in compliance with the inventory

15.2 Chemical safety assessment

SECTION 16: Other information

Full text of H-Statements

H301	:	Toxic if swallowed.
H302	:	Harmful if swallowed.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H332	:	Harmful if inhaled.
H373	:	May cause damage to organs through prolonged or repeated exposure if swallowed.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H411	:	Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Dam.	:	Serious eye damage
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT RE	:	Specific target organ toxicity - repeated exposure
2000/39/EC	:	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
2017/164/EU	:	Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
2000/39/EC / TWA	:	Limit Value - eight hours

2000/39/EC / STEL	:	Short term exposure limit
2017/164/EU / TWA	:	Limit Value - eight hours
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	:	Short-term exposure limit (15-minute reference period)

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; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; SVHC - Substance of very high concern; 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

Further information

Classification of the mixture:		**Classification procedure:**
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 1	H410	Calculation method

Disclaimer

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Prepared by

FMC Corporation

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