

Safety Data Sheet

29 CFR 1910.1200 App D

FLO-COAT BMZ

Version number: 1.0

SECTION 1: Identification

1.1 Product identifier

Trade name <u>FLO-COAT BMZ</u>

CAS number Not relevant (mixture)

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

Relevant identified usesIndustrial and commercial applications

1.3 Details of the supplier of the safety data sheet

Verdesian Life Sciences, U.S., LLC. Telephone: (800) 868-6446 1001 Winstead Drive, Suite 480 Telefax: (919) 535-3652

Cary, NC 27513 United States

1.4 Emergency telephone number

Poison center		
Country	Name	Telephone
United States	INFOTRAC (North America)	1-800-535-5053

As above or nearest toxicological information centre.

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Classifica	ation			
Section	Hazard class	Category	Hazard class and category	Hazard state- ment
A.7	reproductive toxicity	1B	Repr. 1B	H360

For full text of abbreviations: see SECTION 16

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Signal word Danger

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Pictograms

GHS08



Hazard statements

H360 May damage fertility or the unborn child (if swallowed).

Additional statements

9 % of the mixture consists of ingredient(s) of unknown toxicity.

Precautionary statements

P201 Obtain special instructions before use.P264 Wash thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection. **P305+P351+P338** If in eyes: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing.

P308+P313 If exposed or concerned: Get medical advice/attention. **P337+P313** If eye irritation persists: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container to hazardous or special waste collection point.

Hazardous ingredients for labelling boric acid

2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0.1\%$.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture).

3.2 Mixtures

Description of the mixture

Hazardous ingredients

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Hexaboron dizinc un- decaoxide, heptahy- drate	CAS No 138265-88-0	25 - < 50	Repr. 2 / H361d	\$	-
Water	CAS No 7732-18-5 RTECS No ZC0110000	10-<25	-	-	-

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Hazardous ingredients

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Manganese carbon- ate	CAS No 598-62-9	10-<25	-	-	-
Boric acid	CAS No 10043-35-3	10-<25	Repr. 1B / H360FD	&	-
Lubricating oil		5 – < 10	Asp. Tox. 1 / H304		-
Zinc oxide	CAS No 1314-13-2	5 – < 10	-	-	-
Amines, coco alkyl, ethoxylated	CAS No 61791-14-8	0.3 - < 1	Acute Tox. 4 / H302 Eye Dam. 1 / H318 HNOC006		-
Nonylphenol, branched, eth- oxylated	CAS No 68412-54-4	0.3 - < 1	Skin Irrit. 2 / H315 Eye Irrit. 2 / H319	1	-

For full text of H-phrases: see SECTION 16

the specific chemical identity and/or exact percentage (concentratioin) of composition has been withheld as a trade secret

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Take off immediately all contaminated clothing.

In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air.

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Rinse cautiously with water for several minutes.

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

Following ingestion

Rinse mouth. Do not induce vomiting.

Get medical advice/attention if you feel unwell.

Notes for the doctor

None.

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4.2 Most important symptoms and effects, both acute and delayed

Vomiting, diarrhoea, nausea. Repeated uptake or uptake of large quantities may lead to chronic effects (see section 11).

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

water spray, alcohol resistant foam, fire extinguishing powder, carbon dioxide (CO2)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

Hazardous combustion products

carbon monoxide (CO), carbon dioxide (CO2), oxides of boron, metal oxides

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.

Coordinate firefighting measures to the fire surroundings.

Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

chemical protection suit, wear self-contained breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

Ventilate affected area.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose of it.

If substance has entered a water course or sewer, inform the responsible authority.

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6.3 Methods and material for containment and cleaning up

Advice on how to clean up a spill

Collect spillage.

Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.).

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal.

Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5.

Personal protective equipment: see section 8.

Incompatible materials: see section 10.

Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Keep away from sources of ignition - No smoking.

Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.

Wash hands after use.

Preventive skin protection (barrier creams/ointments) is recommended.

Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Flammability hazards

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Protect against external exposure, such as

high temperatures, frost

Consideration of other advice

Keep away from food, drink and animal feedingstuffs.

Ventilation requirements

Provision of sufficient ventilation.

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Packaging compatibilities

Only packagings which are approved (e.g. acc. to DOT) may be used.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

The following constituents are the only constituents of the product which have a PEL or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Occupational exposure limit values (Workplace Exposure Limits)

Coun- try	Name of agent	CAS No	Identi- fier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Nota- tion	Source
US	Manganese com- pounds	-	PEL (CA)	-	0.2	ı	-	Mn	Cal/OSHA PEL
US	Manganese com- pounds	-	REL	-	1 (10 h)	ı	3	Mn	NIOSH REL
US	Manganese com- pounds	-	PEL	-	-	ı	-	Mn	29 CFR 1910.1000
US	Zinc oxide	1314-13- 2	REL	-	5 (10 h)	ı	-	Dust	NIOSH REL
US	Zinc oxide	1314-13- 2	PEL (CA)	-	5	-	10	Fume	Cal/OSHA PEL
US	Zinc oxide	1314-13- 2	REL	-	5 (10 h)	-	10	Fume	NIOSH REL
US	Zinc oxide	1314-13- 2	PEL	-	5	-	-	Fume	29 CFR 1910.1000
US	Zinc oxide	1314-13- 2	PEL	-	15	-	-	I, dust	29 CFR 1910.1000
US	Zinc oxide	1314-13- 2	PEL	-	5	-	-	R, dust	29 CFR 1910.1000

Notation

dust as dust fume as fume

i inhalable fraction

Mn calculated as Mn (manganese)

r respirable fraction

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-

minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of

8 hours time-weighted average (unless otherwise specified

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8.2 Exposure controls

Appropriate engineering controls

Use local and general ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Hand protection

Protective gloves

Material	Material thickness	Breakthrough times of the glove material
CR: chloroprene (chlorobutadiene) rubber	≥ 0,5 mm	>10 minutes (permeation: level 1)
NBR: acrylonitrile-butadiene rubber	≥ 0,4 mm	>10 minutes (permeation: level 1)
PVC: polyvinyl chloride	≥ 0,5 mm	>10 minutes (permeation: level 1)

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state Liquid

Color beige

Odor Odorless

Odor threshold Not determined

Other safety parameters

pH (value) 8.2

Melting point/freezing point Not determined

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Boiling point or initial boiling point and boiling Not determined

range

Flash point Not determined

Evaporation rate Not determined

Flammability (solid, gas) Not relevant

(fluid)

Explosive limits

Not determined

Vapor pressure Not determined

Density $1.46 \, \mathrm{g/_{cm^3}}$

Relative vapour density this information is not available

Solubility(ies)

Water solubility Not miscible in any proportion

Partition coefficient

n-octanol/water (log KOW) Not determined

Auto-ignition temperature Not determined

Decomposition temperature Not relevant

Viscosity

Kinematic viscosity Not determined

Dynamic viscosity Not determined

Explosive properties None

Oxidizing properties None

Information for relevant hazard classes Hazard classes acc. to GHS (Physical hazards):

according to GHS Not relevant

9.2 Other information There is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5 Incompatible materials

There is no additional information.

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification procedure

If not otherwise specified the classification is based on:

Ingredients of the mixture (additivity formula).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity

The classification criteria for this hazard class are not met.

Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	ATE
Amines, coco alkyl, ethoxylated	61791-14-8	Oral	500 ^{mg} / _{kg}

Name of substance	CAS No	Expos- ure route	End- point	Value	Species	Method	Source
Hexaboron dizinc unde- caoxide, heptahydrate	138265-88- 0	Inhala- tion: dust/ mist	LC0	4.95 ^{mg} / _I /4h	Rat	OECD Guideline 403	ECHA
Hexaboron dizinc unde- caoxide, heptahydrate	138265-88- 0	Inhala- tion: dust/ mist	LC50	>4.95 ^{mg} / _l /4h	Rat	OECD Guideline 403	ECHA
Hexaboron dizinc unde- caoxide, heptahydrate	138265-88- 0	Dermal	LD50	>5,000 ^{mg} / _{kg}	Rabbit	OECD Guideline 402	ECHA
Hexaboron dizinc unde- caoxide, heptahydrate	138265-88- 0	Oral	LD50	>5,000 ^{mg} / _{kg}	Rat	-	ECHA

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Name of substance	CAS No	Expos- ure route	End- point	Value	Species	Method	Source
Manganese carbonate	598-62-9	Oral	LD50	>2,000 ^{mg} / _{kg}	Rat, fe- male	OECD Guideline 420	ЕСНА
Manganese carbonate	598-62-9	Inhala- tion: dust/ mist	LC50	>5.35 ^{mg} / _l /4h	Rat	OECD Guideline 403	ECHA
Boric acid	10043-35-3	Oral	LD50	3,450 ^{mg} / _{kg}	Rat, male	1	ECHA
Boric acid	10043-35-3	Oral	LD50	4,080 ^{mg} / _{kg}	Rat, fe- male	-	ECHA
Boric acid	10043-35-3	Dermal	LD0	>2,000 ^{mg} / _{kg}	Rabbit	FIFRA (40 CFR 163)	ECHA
Zinc oxide	1314-13-2	Inhala- tion: dust/ mist	LC50	>5,700 ^{mg} / _{m³} /4h	Rat	OECD Guideline 403	ECHA
Zinc oxide	1314-13-2	Oral	LD50	>2,000 ^{mg} / _{kg}	Rat	OECD Guideline 423	ECHA
Zinc oxide	1314-13-2	Dermal	LD50	>2,000 ^{mg} / _{kg}	Rat	OECD Guideline 402	ЕСНА

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitization Skin sensitization

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Respiratory sensitization

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Germ cell mutagenicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

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Carcinogenicity

National Toxicology Program (United States)

None of the ingredients are listed.

OSHA Carcinogens

None of the ingredients are listed.

Reproductive toxicity

May damage the unborn child (if swallowed).

May damage fertility (if swallowed).

Specific target organ toxicity - single exposure

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - repeated exposure

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Other information

The mixture contains substance(s) with an endocrine disrupting potential.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Very toxic to aquatic organisms.

Aquatic toxicity (acute) of components of the mixture

Name of sub- stance	CAS No	Endpoint	Expos- ure time	Value	Species	Method	Source
Hexaboron diz- inc undecaox- ide, heptahy- drate	138265-88- 0	LC50	96 h	820 ^{µg} / _l	Fish	-	ECHA
Hexaboron diz- inc undecaox- ide, heptahy- drate	138265-88- 0	EC50	24 h	27.1 ^{mg} / _l	Aquatic inver- tebrates	-	ECHA
Manganese carbonate	598-62-9	LC50	96 h	3.17 ^{mg} / _l	Rainbow trout (Oncorhynchus mykiss)	-	ECHA

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Name of sub- stance	CAS No	Endpoint	Expos- ure time	Value	Species	Method	Source
Manganese carbonate	598-62-9	EC50	48 h	>3.6 ^{mg} / _l	Daphnia magna	OECD Guideline 202	ЕСНА
Manganese carbonate	598-62-9	ErC50	72 h	>2.2 ^{mg} / _l	Algae (pseudokirch- neriella subcap- itata)	OECD Guideline 201	ЕСНА
Boric acid	10043-35-3	LC50	48 h	487 ^{mg} / _l	Fish	-	GESTIS
Boric acid	10043-35-3	LC50	48 h	180 ^{mg} / _l	Crustaceae (Crangon sp.)	-	GESTIS
Boric acid	10043-35-3	EC50	48 h	226 ^{mg} / _l	Crustaceae (Crangon sp.)	-	GESTIS
Zinc oxide	1314-13-2	EC50	48 h	135 ^{µg} / _l	Daphnia magna	-	ECHA
Zinc oxide	1314-13-2	EC50	24 h	7.1 ^{mg} / _l	Tetrahymena sp.	-	ECHA
Zinc oxide	1314-13-2	LC50	96 h	102 ^{mg} / _l	Rainbow trout (Oncorhynchus mykiss)	-	ECHA
Zinc oxide	1314-13-2	LC50	48 h	100 ^{µg} / _l	Daphnia magna	-	ECHA
Zinc oxide	1314-13-2	ErC50	72 h	185 ^{µg} / _l	Algae (raphido- celis subcapit- ata)	OECD Guideline 201	ЕСНА
Amines, coco alkyl, eth- oxylated	61791-14-8	EC50	48 h	27 ^{mg} / _l	Daphnia	-	CESIO
Amines, coco alkyl, eth- oxylated	61791-14-8	LC50	96 h	6.4 ^{mg} / _I	Fish	-	CESIO

Aquatic toxicity (chronic)

Toxic to aquatic life with long lasting effects.

Aquatic toxicity (chronic) of components of the mixture

Name of sub- stance	CAS No	Endpoint	Expos- ure time	Value	Species	Method	Source
Hexaboron diz- inc undecaox- ide, heptahy- drate	138265-88- 0	NOEC	116 d	250 ^{µg} / _l	Fish	-	ECHA

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Name of sub- stance	CAS No	Endpoint	Expos- ure time	Value	Species	Method	Source
Hexaboron diz- inc undecaox- ide, heptahy- drate	138265-88- 0	LOEC	27 d	50 ^{µg} / _l	Fish		ECHA
Hexaboron diz- inc undecaox- ide, heptahy- drate	138265-88- 0	Growth rate (ErCx) 10%	10 d	670.8 ^{µg} / _l	Algae	-	ECHA
Manganese carbonate	598-62-9	EC50	8 d	2.5 ^{mg} / _l	Ceriodaphnia dubia (water flea)	OECD Guideline 211	ЕСНА
Manganese carbonate	598-62-9	NOEC	48 h	3.6 ^{mg} / _l	Daphnia magna	OECD Guideline 202	ЕСНА
Manganese carbonate	598-62-9	NOEC	8 d	1.3 ^{mg} / _l	Ceriodaphnia dubia (water flea)	OECD Guideline 211	ЕСНА
Manganese carbonate	598-62-9	NOEC	65 d	0.55 ^{mg} / _l	Salvelinus fontinalis	OECD Guideline 210	ЕСНА
Manganese carbonate	598-62-9	NOEC	72 h	0.69 ^{mg} / _l	Algae (raphido- celis subcapit- ata)	OECD Guideline 201	ЕСНА
Manganese carbonate	598-62-9	LOEC	8 d	4.1 ^{mg} / _l	Ceriodaphnia dubia (water flea)	OECD Guideline 211	ЕСНА
Zinc oxide	1314-13-2	LC50	30 d	32 ^{µg} / _I	Cottus bairdi	-	ECHA
Zinc oxide	1314-13-2	LC50	14 d	44.6 ^{µg} / _I	Daphnia lum- holtzi	-	ECHA
Zinc oxide	1314-13-2	EC50	7 d	22 ^{µg} / _l	Ceriodaphnia dubia (water flea)	•	ЕСНА
Zinc oxide	1314-13-2	EC50	28 d	75 ^{µg} / _I	Cottus bairdi	-	ECHA
Zinc oxide	1314-13-2	EC50	3 h	5.2 ^{mg} / _l	Activated sludge of a pre- dominantly do- mestic sewage	OECD Guideline 209	ECHA
Zinc oxide	1314-13-2	ErC50	10 d	410 ^{µg} / _l	Alge (Phaeo- cystis antarc- tica)	-	ECHA

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Name of sub- stance	CAS No	Endpoint	Expos- ure time	Value	Species	Method	Source
Zinc oxide	1314-13-2	NOEC	24 d	7.1 ^{µg} / _l	Holmesimysis costata, Mysid shrimp, Mysid- ae	-	ECHA
Zinc oxide	1314-13-2	NOEC	72 h	7.4 ^{µg} / _l	Algae (raphido- celis subcapit- ata)	OECD Guideline 201	ЕСНА
Zinc oxide	1314-13-2	NOEC	30 d	26 ^{µg} / _l	Jordanella flor- idae	-	ECHA
Zinc oxide	1314-13-2	NOEC	4 h	0.1 ^{mg} / _l	Activated sludge of a pre- dominantly do- mestic sewage	DIN EN ISO 9509	ECHA
Zinc oxide	1314-13-2	LOEC	30 d	51 ^{µg} / _I	Jordanella flor- idae	-	ECHA
Zinc oxide	1314-13-2	LOEC	28 d	87 ^{µg} / _I	Lampsilis sili- quoidea	-	ECHA
Zinc oxide	1314-13-2	Growth rate (ErCx) 10%	72 h	4.9 ^{µg} / _l	Algae (raphido- celis subcapit- ata)	OECD Guideline 201	ЕСНА
Zinc oxide	1314-13-2	Growth rate (ErCx) 10%	21 d	0.014 ^{mg} / _l	Daphnia magna	OECD Guideline 211	ЕСНА
Zinc oxide	1314-13-2	Growth rate (ErCx) 10%	53 d	53 ^{µg} / _I	Acipenser transmontanus	-	ECHA
Zinc oxide	1314-13-2	Growth rate (ErCx) 10%	180 min	720 ^{mg} / _l	Activated sludge of a pre- dominantly do- mestic sewage	OECD Guideline 209	ЕСНА

12.2 Persistence and degradability

Biodegradation

No data available.

Persistence

No data available.

12.3 Bioaccumulative potential

Test data are not available for the complete mixture.

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Bioaccumulative potential of components of the mixture

Name of substance	CAS No	ВСГ	Log KOW
Boric acid	10043-35-3	3.76	-1.09 (pH value: 7.5, 22 °C)
Zinc oxide	1314-13-2	1,050	-

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0.1\%$.

12.6 Endocrine disrupting properties Other adverse effects

Contains an endocrine disruptor (EDC) in a concentration of $\geq 0.1\%$.

Remarks

None.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packages

Completely emptied packages can be recycled.

Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1 UN number

DOT UN3082
IMDG-Code UN3082
ICAO-TI UN3082

14.2 UN proper shipping name

DOT Environmentally hazardous substance, liquid,

n.o.s.

IMDG-Code ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LI-

QUID, N.O.S.

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ICAO-TI Environmentally hazardous substance, liquid,

n.o.s.

Technical name (hazardous ingredients) zinc oxide

14.3 Transport hazard class(es)

DOT 9

IMDG-Code 9

ICAO-TI 9

14.4 Packing group

DOT

IMDG-Code III

ICAO-TI III

14.5 Environmental hazards Hazardous to the aquatic environment

Environmentally hazardous substance (aquatic zinc oxide

environment)

14.6 Special precautions for user -

14.7 Transport in bulk according to IMO -

instruments

14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT) Additional information

Particulars in the shipper's declaration UN3082, Environmentally hazardous substance, li-

quid, n.o.s., (zinc oxide), 9, III

Danger label(s) 9, fish and tree



Environmental hazards Yes

(hazardous to the aquatic environment)

Special provisions (SP) 8, 146, 173, 335, 441, IB3, T4, TP1, TP29

ERG No 171

International Maritime Dangerous Goods Code (IMDG) Additional information

Marine pollutant Yes

(hazardous to the aquatic environment)

(zinc oxide)

Danger label(s) 9, fish and tree

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Special provisions (SP) 274, 335, 969

Excepted quantities (EQ) E1

Limited quantities (LQ) 5 L

EmS F-A, S-F

Stowage category A

International Civil Aviation Organization (ICAO-IATA/DGR) Additional information

Environmental hazards Yes

(hazardous to the aquatic environment)

Danger label(s) 9, fish and tree

Special provisions (SP) A97, A158, A197, A215

Excepted quantities (EQ) E1

Limited quantities (LQ) 30 kg

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Clean Air Act

None of the ingredients are listed

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

None of the ingredients are listed

Drug precursors, Chemicals designated within the Controlled Substances Act, 21 U.S.C. § 802, paragraphs 34 (list I) and 35 (list II)

None of the ingredients are listed

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

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SECTION 16: Other information, including date of preparation or last revision

Date of preparation: 2023-03-02

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazard- ous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
Acute Tox.	Acute toxicity
Asp. Tox.	Aspiration hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
DOT	Department of Transportation (USA)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
ERG No	Emergency Response Guidebook - Number
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval

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Abbr.	Descriptions of used abbreviations
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LOEC	Lowest Observed Effect Concentration
Log KOW	n-Octanol/water
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NOEC	No Observed Effect Concentration
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
Ppm	Parts per million
Repr.	Reproductive toxicity
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
TWA	Time-weighted average
VPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties.

Health hazards.

Environmental hazards.

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H318	Causes serious eye damage.

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Code	Text
H319	Causes serious eye irritation.
H360	May damage fertility or the unborn child (if swallowed).
H360FD	May damage fertility. May damage the unborn child (if swallowed).
H361d	Suspected of damaging the unborn child (if swallowed).

Responsible for the safety data sheet

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Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

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