

AGRONOMIC SERVICES

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

1.1. Product identifier

Trade name or designation of the mixture PROTIVATE™ NU3-DRI

Registration number -

UFI: 20M0-10CA-P009-1JP2

Synonyms WOLF TRAX® PROTINUS®

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

Identified uses Plant Micronutrient.

Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

Manufacturer Koch Agronomic Services, LLC
 4111 E 37th St N
 Wichita, KS 67220 US
 kochmsds@kochind.com
 1.866.863.5550

Emergency telephone Call CHEMTREC Day or Night
 USA/Canada - 1.800.424.9300
 Outside USA/Canada
 -1.703.527.3887
 (Please reverse charges)

1.4. Emergency telephone number

General in EU 112 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

National Poisons Information Centre 353 (1) 809 2566 Healthcare Professionals: 24 hours, 7 days a week

353 (1) 809 2166 General Public: 8:00 a.m. to 10 p.m. (7 days a week)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Serious eye damage/eye irritation	Category 1	H318 - Causes serious eye damage.
Specific target organ toxicity - repeated exposure	Category 2 (Brain)	H373 - May cause damage to organs (Brain) through prolonged or repeated exposure.

Environmental hazards

Hazardous to the aquatic environment, acute aquatic hazard	Category 1	H400 - Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term aquatic hazard	Category 1	H410 - Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Manganese sulfate monohydrate, Citric acid, Iron oxide, Manganese dichloride

Hazard pictograms



Signal word

Danger

Hazard statements

H318 Causes serious eye damage.
H373 May cause damage to organs (Brain) through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P260 Do not breathe dust.
P273 Avoid release to the environment.
P280 Wear eye protection/face protection.

Response

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTRE/doctor.
P391 Collect spillage.

Storage

Not assigned.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental information on the label

None.

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. The mixture does not contain any substances included in the list established in accordance with REACH Article 59(1) for having endocrine disrupting properties at a concentration equal to or greater than 0.1% by weight. The mixture does not contain any substances having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0.1% by weight.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Zinc oxide	30 - 60	1314-13-2 215-222-5	01-2119463881-32-XXXX	030-013-00-7	
Classification: Aquatic Acute 1;H400(M=1), Aquatic Chronic 1;H410(M=1)					
Manganese sulfate monohydrate	20 - 50	7785-87-7 232-089-9	01-2119456624-35-0013	025-003-00-4	#
Classification: Eye Dam. 1;H318, STOT RE 2;H373, Aquatic Chronic 2;H411					
Zinc sulfate monohydrate	10 - 20	7446-19-7 231-793-3	01-2119474684-27-XXXX	030-006-00-9	
Classification: Acute Tox. 4;H302;(ATE: 500 mg/kg bw), Eye Dam. 1;H318, Aquatic Acute 1;H400(M=1), Aquatic Chronic 1;H410(M=1)					
Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt	1 - 5	68425-94-5 614-476-8	-	-	
Classification: Eye Irrit. 2;H319					
Citric acid	1 - 5	77-92-9 201-069-1	-	-	
Classification: Eye Irrit. 2;H319					
Iron oxide	1 - 5	1309-37-1 215-168-2	01-2119457614-35-0051	-	
Classification: -					
Manganese dichloride	0.1 - 2	7773-01-5 231-869-6	01-2119934899-15-0000	-	#
Classification: Acute Tox. 3;H301;(ATE: 236 mg/kg bw), Eye Dam. 1;H318, STOT RE 2;H373					

List of abbreviations and symbols that may be used above

ATE: Acute toxicity estimate.

M: M-factor

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

#: This substance has been assigned Union workplace exposure limit(s).

Composition comments The full text for all H-statements is displayed in section 16. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 4: First aid measures

General information If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1. Description of first aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

4.2. Most important symptoms and effects, both acute and delayed Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dusts may irritate the respiratory tract, skin and eyes. Coughing. Prolonged exposure may cause chronic effects.

4.3. Indication of any immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards No unusual fire or explosion hazards noted.

5.1. Extinguishing media

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire fighting procedures Use water spray to cool unopened containers.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

For emergency responders Keep unnecessary personnel away. Do not breathe dust. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect dust using a vacuum cleaner equipped with HEPA filter. This product is miscible in water. Prevent product from entering drains. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

6.4. Reference to other sections For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Minimise dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Do not get this material in contact with eyes. Avoid prolonged exposure. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see section 10 of the SDS).

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

ANNEX 1, PART 1 Categories of dangerous substances
Hazard categories in accordance with Regulation (EC) No 1272/2008

- E1 Hazardous to the Aquatic Environment Acute (Lower-tier requirements = 100 tonnes;
Upper-tier requirements = 200 tonnes)
- E1 Hazardous to the Aquatic Environment Chronic (Lower-tier requirements = 100 tonnes;
Upper-tier requirements = 200 tonnes)

7.3. Specific end use(s)

Plant Micronutrient. Observe industrial sector guidance on best practices.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Ireland. OELVs, Schedules 1 & 2, Code of Practise for Chemical Agents and Carcinogens Regulations

Components	Type	Value	Form
Iron oxide (CAS 1309-37-1)	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.
		4 mg/m3	Respirable dust.
		10 mg/m3	Total inhalable dust.
Manganese dichloride (CAS 7773-01-5)	TWA	0.2 mg/m3	Inhalable fraction.
		0.05 mg/m3	Respirable fraction.
Manganese sulfate monohydrate (CAS 7785-87-7)	TWA	0.2 mg/m3	Inhalable fraction.
		0.05 mg/m3	Respirable fraction.
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction and fume.
	TWA	2 mg/m3	Respirable fraction and fume.

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU

Components	Type	Value	Form
Manganese dichloride (CAS 7773-01-5)	TWA	0.2 mg/m3	Inhalable fraction.
		0.05 mg/m3	Respirable fraction.
Manganese sulfate monohydrate (CAS 7785-87-7)	TWA	0.2 mg/m3	Inhalable fraction.
		0.05 mg/m3	Respirable fraction.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures

Follow standard monitoring procedures.

Derived no effect levels (DNELs)

General population

Components	Value	Assessment factor	Notes
Manganese dichloride (CAS 7773-01-5)	Long-term, Systemic, Dermal	1000	Neurotoxicity Neurotoxicity Acute toxicity
	Long-term, Systemic, Inhalation		
	Short-term, Systemic, Oral		
Manganese sulfate monohydrate (CAS 7785-87-7)	Long-term, Systemic, Dermal	1000	Neurotoxicity Neurotoxicity Acute toxicity
	Long-term, Systemic, Inhalation		

Zinc oxide (CAS 1314-13-2)			
Long-term, Systemic, Dermal	83 mg/kg bw/day	1	Repeated dose toxicity
Long-term, Systemic, Inhalation	2.5 mg/m3	1	Repeated dose toxicity
Long-term, Systemic, Oral	0.83 mg/kg bw/day	1	Repeated dose toxicity

Workers

Components	Value	Assessment factor	Notes
Manganese dichloride (CAS 7773-01-5)			
Long-term, Systemic, Dermal	0.004 mg/kg bw/day		Neurotoxicity
Long-term, Systemic, Inhalation	0.2 mg/m3		Neurotoxicity
Manganese sulfate monohydrate (CAS 7785-87-7)			
Long-term, Systemic, Dermal	0.004 mg/kg bw/day		
Zinc oxide (CAS 1314-13-2)			
Long-term, Local, Inhalation	0.5 mg/m3	3	Repeated dose toxicity
Long-term, Systemic, Dermal	83 mg/kg bw/day	1	Repeated dose toxicity
Long-term, Systemic, Inhalation	5 mg/m3	1	Repeated dose toxicity

Predicted no effect concentrations (PNECs)

Components	Value	Assessment factor	Notes
Manganese dichloride (CAS 7773-01-5)			
Freshwater	0.025 mg/l	50	
Marine water	0 mg/l	50	
Sediment (freshwater)	0.011 mg/kg	50	
Sediment (marine water)	0.001 mg/kg	500	
Soil	14.8 mg/kg	10	
STP	20.4 mg/l	10	
Manganese sulfate monohydrate (CAS 7785-87-7)			
Freshwater	0.013 mg/l	5	
Marine water	0 mg/l	50	
Sediment (freshwater)	0.011 mg/kg	50	
Sediment (marine water)	0.001 mg/kg	500	
Soil	25.1 mg/kg	10	
STP	56 mg/l	10	
Zinc oxide (CAS 1314-13-2)			
Freshwater	20.6 µg/l	1	
Marine water	6.1 µg/l	1	
Sediment (freshwater)	117.8 mg/kg	1	
Sediment (marine water)	56.5 mg/kg	1	
Soil	35.6 mg/kg	1	
STP	100 µg/l	1	

8.2. Exposure controls

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL (occupational exposure limit), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. Provide eyewash station.

Individual protection measures, such as personal protective equipment

General information	Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.
Eye/face protection	Wear approved safety goggles. Eye protection should meet standard EN 166.
Skin protection	
- Hand protection	Wear appropriate chemical resistant gloves. Glove material: Neoprene, nitrile rubber. Use gloves with breakthrough time of > 480 minutes. Minimum glove thickness 0.7 mm. Wear suitable gloves tested to EN 374.
- Other	Wear suitable protective clothing. Use of an impervious apron is recommended.
Respiratory protection	Chemical respirator with organic vapour cartridge, full facepiece, dust and mist filter.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.

Hygiene measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Environmental exposure controls	Inform appropriate managerial or supervisory personnel of all environmental releases. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.
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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Form	Powder.
Colour	Pink.
Odour	Characteristic.
Odour threshold	Property has not been measured.
Melting point/freezing point	Property has not been measured.
Boiling point or initial boiling point and boiling range	Property has not been measured.
Flammability	Not flammable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not applicable, material is a solid.
Explosive limit – upper (%)	Not applicable, material is a solid.
Flash point	Not applicable, material is a solid.
Auto-ignition temperature	Not applicable, material is a solid.
Decomposition temperature	Property has not been measured.
pH	6.5 - 7
Kinematic viscosity	Not applicable, material is a solid.
Solubility	
Solubility (water)	Property has not been measured.
Partition coefficient (n-octanol/water) (log value)	Property has not been measured.
Vapour pressure	Property has not been measured.
Density and/or relative density	
Density	Property has not been measured.
Relative density	Property has not been measured.
Vapour density	Property has not been measured.
Particle characteristics	Property has not been measured.

9.2. Other information

9.2.1. Information with regard to physical hazard classes No relevant additional information available.

9.2.2. Other safety characteristics

Evaporation rate	Property has not been measured.
Viscosity	Property has not been measured.

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Contact with incompatible materials.
10.5. Incompatible materials	Chlorine. Fluorine.
10.6. Hazardous decomposition products	Metal oxides.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation	Dust may irritate respiratory system. Prolonged inhalation may be harmful.
Skin contact	Dust or powder may irritate the skin.

Eye contact	Causes serious eye damage.
Ingestion	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.
Symptoms	Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dusts may irritate the respiratory tract, skin and eyes. Coughing.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Components	Species	Test Results
Manganese dichloride (CAS 7773-01-5)		
Acute		
Oral		
LD50	Rat	236 mg/kg
Manganese sulfate monohydrate (CAS 7785-87-7)		
Acute		
Inhalation		
<i>Dust</i>		
LC50	Rat	> 4.45 mg/l, 4 hours
Oral		
LD50	Rat	2150 mg/kg
Zinc oxide (CAS 1314-13-2)		
Acute		
Dermal		
LD50	Rat	2000 mg/kg
Inhalation		
LC50	Rat	1.68 - 5.7 mg/l, 4 hours
Oral		
LD50	Mouse	2000 - 5000 mg/kg
	Rat	2000 - 5000 mg/kg

Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory sensitisation	Based on available data, the classification criteria are not met.
Skin sensitisation	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.

IARC Monographs. Overall Evaluation of Carcinogenicity

Amorphous silica (CAS 112926-00-8)	3 Not classifiable as to carcinogenicity to humans.
Iron oxide (CAS 1309-37-1)	3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity	Based on available data, the classification criteria are not met.
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure	May cause damage to organs (Brain) through prolonged or repeated exposure.
Aspiration hazard	Not an aspiration hazard.
Mixture versus substance information	No information available.

11.2. Information on other hazards

Endocrine disrupting properties	This mixture does not contain any substances having endocrine disrupting properties with respect to human health as assessed in accordance with the criteria set out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605, at a concentration equal to or greater than 0.1% by weight.
Other information	None known.

SECTION 12: Ecological information

12.1. Toxicity	Very toxic to aquatic life with long lasting effects.
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Components	Species		Test Results
Manganese sulfate monohydrate (CAS 7785-87-7)			
Aquatic			
<i>Acute</i>			
Algae	ErC50	Algae	61 mg/l, 72 hours
Fish	LC50	Fish	49.9 mg/l, 96 hours
Zinc oxide (CAS 1314-13-2)			
Aquatic			
<i>Acute</i>			
Algae	EC50	Algae	> 0.69 - < 4.55 mg/l, 24 hours > 0.3 - < 1.94 mg/l, 96 hours
	NOEC	Algae	1.071 mg/l, 16 days
<i>Crustacea</i>			
Crustacea	EC50	Aquatic invertebrates	> 1.27 - < 1.92 mg/l, 4 hours > 0.155 - < 100 mg/l, 48 hours > 0.14 - < 6 mg/l, 24 hours > 0.072 - < 0.103 mg/l, 96 hours
	LC50	Aquatic invertebrates	> 0.37 - < 1.19 mg/l, 96 hours
<i>Fish</i>			
Fish	EC50	Fish	> 2.065 - < 2.966 mg/l, 85 hours
	LC50	Fish	23.06 mg/l, 84 hours 0.33 mg/l, 95 hours > 0.112 - < 8.062 mg/l, 96 hours
Zinc sulfate monohydrate (CAS 7446-19-7)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	0.06 mg/l, 48 hours
Fish	LC50	Hirame, flounder (Paralichthys olivaceus)	< 10 mg/l, 96 hours
12.2. Persistence and degradability	No data is available on the degradability of this product.		
12.3. Bioaccumulative potential	No data available.		
Partition coefficient n-octanol/water (log Kow)	Not available.		
Bioconcentration factor (BCF)	Not available.		
12.4. Mobility in soil	No data available.		
12.5. Results of PBT and vPvB 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. Endocrine disrupting properties	This mixture does not contain any substances having endocrine disrupting properties with respect to the environment as assessed in accordance with the criteria set out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605, at a concentration equal to or greater than 0.1% by weight.		
12.7. Other adverse effects	No data available.		
SECTION 13: Disposal considerations			
13.1. Waste treatment methods			
Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.		
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.		
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.		
Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.		
Special precautions	Dispose in accordance with all applicable regulations.		

SECTION 14: Transport information

ADR

14.1. UN number	UN3077
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc oxide, Zinc sulfate monohydrate)
14.3. Transport hazard class(es)	
Class	9
Subsidiary hazard	-
Label(s)	9
Hazard No. (ADR)	90
Tunnel restriction code	E
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number	UN3077
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc oxide, Zinc sulfate monohydrate)
14.3. Transport hazard class(es)	
Class	9
Subsidiary hazard	-
Label(s)	9
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number	UN3077
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc oxide, Zinc sulfate monohydrate)
14.3. Transport hazard class(es)	
Class	9
Subsidiary hazard	-
Label(s)	9
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number	UN3077
14.2. UN proper shipping name	Environmentally hazardous substance, solid, n.o.s. (Zinc oxide, Zinc sulfate monohydrate)
14.3. Transport hazard class(es)	
Class	9
Subsidiary hazard	-
14.4. Packing group	III
14.5. Environmental hazards	Yes.
ERG Code	9L
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

14.1. UN number	UN3077
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc oxide, Zinc sulfate monohydrate)
14.3. Transport hazard class(es)	
Class	9
Subsidiary hazard	-
14.4. Packing group	III
14.5. Environmental hazards	
Marine pollutant	Yes.
EmS	F-A, S-F
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

14.7. Maritime transport in bulk according to IMO instruments Not applicable.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Amorphous silica (CAS 112926-00-8)

Iron oxide (CAS 1309-37-1)

Manganese dichloride (CAS 7773-01-5)

Zinc sulfate monohydrate (CAS 7446-19-7)

Zinc oxide (CAS 1314-13-2)

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended

- Conditions of restriction given for the associated entry number should be considered

Manganese sulfate monohydrate (CAS 7785-87-7) 3

Zinc oxide (CAS 1314-13-2) 3

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Regulation 2019/1148 on Marketing and Use of Explosive Precursors, Annex I, as amended

Not listed.

Regulation 2019/1148 on Marketing and Use of Explosive Precursors, Annex II, as amended

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

ANNEX 1, PART 1 Categories of dangerous substances

Hazard categories in accordance with Regulation (EC) No 1272/2008

- E1 Hazardous to the Aquatic Environment Acute

- E1 Hazardous to the Aquatic Environment Chronic

Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

National regulations

Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

ADN: European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

CAS: Chemical Abstract Service.

CEN: European Committee for Standardization.

IATA: International Air Transport Association.
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.
IMDG: International Maritime Dangerous Goods.
MARPOL: International Convention for the Prevention of Pollution from Ships.
PBT: Persistent, bioaccumulative and toxic.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
STEL: Short term exposure limit.
TWA: Time Weighted Average.
vPvB: Very persistent and very bioaccumulative.
ECHA: European Chemical Agency.

References

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any statements, which are not written out in full under sections 2 to 15

H301 Toxic if swallowed.
H302 Harmful if swallowed.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H373 May cause damage to organs through prolonged or repeated exposure by inhalation.
H373 May cause damage to organs through prolonged or repeated exposure.
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.

Training information

Follow training instructions when handling this material.

Disclaimer

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