MITIGATE

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 10/25/2023 Revision date: 2/18/2025 Supersedes: 10/25/2023 Version: 1.1

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product code : 8463

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Target Specialty Products
15415 Marquardt Ave
Santa Fe Springs, 90670
United States

1.4. Emergency telephone number

Emergency number : 1-800-535-5053
For Chemical Emergency Call INFOTRAC 24hr/day 7days/week
Within USA and Canada: 1-800-553-5053
Outside USA and Canada: 1-352-323-3500
(collect calls accepted)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Hazardous to the aquatic environment – Acute Hazard Category 3	H402	Harmful to aquatic life
Hazardous to the aquatic environment – Chronic Hazard Category 2	H411	Toxic to aquatic life with long lasting effects

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Hazard statements (GHS US) : H402 - Harmful to aquatic life
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (GHS US) : P273 - Avoid release to the environment.
P391 - Collect spillage.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

Other hazards which do not result in classification : None under normal conditions.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
MANGANESE SULFATE	CAS-No.: 10034-96-5	5 – 10
ZINC SULFATE	CAS-No.: 7446-19-7	5 – 10
CITRIC ACID (PH-regulator)	CAS-No.: 77-92-9	1 – 5

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Call a poison center/doctor/physician if you feel unwell.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Do not handle until all safety precautions have been read and understood.

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.
Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.
Storage conditions : Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available

CITRIC ACID (77-92-9)

No additional information available

MANGANESE SULFATE (10034-96-5)

USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA	0.1 mg/m³ (Inhalable fraction)

ZINC SULFATE (7446-19-7)

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Protective gloves
Eye protection:
Safety glasses
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Liquid.
Color	:	brown
Odor	:	Odourless
Odor threshold	:	No data available
pH	:	2.3
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability	:	Not applicable.
Vapor pressure	:	No data available
Relative vapor density at 20°C	:	No data available
Relative density	:	No data available
Density	:	1.25 LB/GAL
Solubility	:	No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosion limits	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

Refractive index	:	1.3893

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

CITRIC ACID (77-92-9)	
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
ATE US (oral)	5400 mg/kg body weight

ZINC SULFATE (7446-19-7)	
LD50 oral rat	1710 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male, Experimental value, Anhydrous form, Oral)
ATE US (oral)	1710 mg/kg body weight

Skin corrosion/irritation : Not classified
pH: 2.3
Serious eye damage/irritation : Not classified
pH: 2.3
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

CITRIC ACID (77-92-9)	
LOAEL (oral,rat,90 days)	8000 mg/kg body weight Animal: rat
NOAEL (oral,rat,90 days)	4000 mg/kg body weight Animal: rat

MANGANESE SULFATE (10034-96-5)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified
Viscosity, kinematic : No data available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life. Toxic to aquatic life with long lasting effects.

CITRIC ACID (77-92-9)	
LC50 - Fish [1]	440 – 760 mg/l (Equivalent or similar to OECD 203, 48 h, Leuciscus idus, Static system, Fresh water, Experimental value, Nominal concentration)

MANGANESE SULFATE (10034-96-5)	
LC50 - Fish [1]	33.8 mg/l (96 h, Pimephales promelas, Anhydrous form)
EC50 - Crustacea [1]	8.28 mg/l (48 h, Daphnia magna, Anhydrous form)

ZINC SULFATE (7446-19-7)	
LC50 - Fish [1]	0.33 – 0.78 mg/l (96 h, Pimephales promelas, Static system, Fresh water, Experimental value, Anhydrous form)
EC50 - Crustacea [1]	1.13 mg/l (48 h, Ceriodaphnia dubia, Literature study, Monohydrate)

12.2. Persistence and degradability

CITRIC ACID (77-92-9)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.42 g O_2/g substance
Chemical oxygen demand (COD)	0.728 g O_2/g substance
ThOD	0.686 g O_2/g substance
BOD (% of ThOD)	0.89 (20 day(s), Literature study)

MANGANESE SULFATE (10034-96-5)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

ZINC SULFATE (7446-19-7)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

12.3. Bioaccumulative potential

CITRIC ACID (77-92-9)	
BCF - Other aquatic organisms [1]	3.2 l/kg (Calculated value)

CITRIC ACID (77-92-9)	
Partition coefficient n-octanol/water (Log Pow)	-1.8 – -1.55 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.

ZINC SULFATE (7446-19-7)	
BCF - Other aquatic organisms [1]	38 – 28960 (28 day(s), Palaemon elegans, Semi-static system, Salt water, Read-across, Fresh weight)
Bioaccumulative potential	Bioaccumable.

12.4. Mobility in soil

CITRIC ACID (77-92-9)	
Ecology - soil	No (test)data on mobility of the substance available.

ZINC SULFATE (7446-19-7)	
Ecology - soil	No (test)data on mobility of the substance available.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : Yes
Marine pollutant : Yes

Other information : No supplementary information available.

14.6. Special precautions for user

DOT
No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:		
MANGANESE SULFATE	CAS-No. 10034-96-5	5 – 10%
ZINC SULFATE	CAS-No. 7446-19-7	5 – 10%

15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Revision date : 02/18/2025

Full text of hazard classes and H-statements	
H402	Harmful to aquatic life
H411	Toxic to aquatic life with long lasting effects

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.