

PUMP

Safety Data Sheet

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)
Issue date: 8/19/2025 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product code : 8478EPO

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Plant Fitness
9860 Dorchester Ave.
Chicago, 60628
United States

1.4. Emergency telephone number

Emergency number : 1-800-535-5053

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Skin corrosion/irritation, Category 2	H315	Causes skin irritation.
Serious eye damage/eye irritation, Category 1	H318	Causes serious eye damage.
Specific target organ toxicity — Repeated exposure, Category 2	H373	May cause damage to organs through prolonged or repeated exposure.

Full text of H-statements: see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) : H315 - Causes skin irritation
H318 - Causes serious eye damage
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS US) : P260 - Do not breathe dust, fume, gas, mist, vapours, spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P280 - Wear protective gloves.
P302+P352 - If on skin: Wash with plenty of water.
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 center or doctor.
P314 - Get medical advice or attention if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P332+P313 - If skin irritation occurs: Get medical advice or attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.

PUMP

Safety Data Sheet

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

2.3. Other hazards which do not result in classification

No additional information available

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	%
FERROUS SULFATE	CAS-No.: 7782-63-0	10 – 20
CITRIC ACID PH-regulator	CAS-No.: 77-92-9	1 – 5
MANGANESE SULFATE	CAS-No.: 10034-96-5	1 – 5
ZINC SULFATE	CAS-No.: 7446-19-7	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	: Get medical advice/attention 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. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after inhalation	: None under normal conditions.
Symptoms/effects after skin contact	: Irritation.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: None under normal conditions.

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.
Unsuitable extinguishing media	: Do not use a heavy water stream.

PUMP

Safety Data Sheet

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

5.2. Specific hazards arising from the chemical

- Fire hazard : No fire hazard.
- Explosion hazard : No direct explosion hazard.
- Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Fight fire from safe distance and protected location. 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 : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

6.1.1. For non-emergency personnel

- Protective equipment : Wear recommended personal protective equipment.
- Emergency procedures : Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

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".
- Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.
- 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. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Wear personal protective equipment.
- Hygiene measures : Wash contaminated clothing before reuse. 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 : Keep in a cool, well-ventilated place away from heat.
- Storage conditions : Keep cool. Protect from sunlight.
- Packaging materials : Store always product in container of same material as original container.

PUMP

Safety Data Sheet

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

PUMP	
No additional information available	
CITRIC ACID 77-92-9	
No additional information available	
FERROUS SULFATE 7782-63-0	
No additional information available	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	1 mg/m ³
MANGANESE SULFATE 10034-96-5	
No additional information available	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	0.1 mg/m ³ (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

Personal protective equipment:

Wear recommended 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):



PUMP

Safety Data Sheet

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Colour	: Dark brown
Odour	: Sweet Metallic
Odour threshold	: No data available
pH	: 2.84
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Flammability	: Not applicable.
Vapour pressure	: No data available
Relative vapour density at 20°C	: No data available
Relative density	: No data available
Density	: 1.2569792 g/cm ³
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
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

No additional information available

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.

PUMP

Safety Data Sheet

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : No data available
Acute toxicity (dermal) : No data available
Acute toxicity (inhalation) : No data available

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

FERROUS SULFATE (7782-63-0)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Read-across, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Read-across, Anhydrous form, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 1.1 mg/l (EPA OPP 81-3: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Read-across, Anhydrous form, Inhalation)
ATE US (dust,mist)	1.5 mg/l/4h

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

Skin corrosion/irritation : Causes skin irritation.
pH: 2.84
Serious eye damage/irritation : Causes serious eye damage.
pH: 2.84
Respiratory or skin sensitisation : No data available
Germ cell mutagenicity : No data available
Carcinogenicity : No data available
Reproductive toxicity : No data available
STOT-single exposure : No data available

CITRIC ACID (77-92-9)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.

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

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

Aspiration hazard : No data available
Viscosity, kinematic : No data available
Symptoms/effects after inhalation : None under normal conditions.
Symptoms/effects after skin contact : Irritation.
Symptoms/effects after eye contact : Serious damage to eyes.
Symptoms/effects after ingestion : None under normal conditions.

PUMP

Safety Data Sheet

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

CITRIC ACID77-92-9	
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)
FERROUS SULFATE7782-63-0	
LC50 - Fish [1]	925 mg/l (96 h, Poecilia reticulata, Static system, Literature study)
EC50 - Crustacea [1]	152 mg/l (48 h, Daphnia magna, Literature study, Anhydrous form)
MANGANESE SULFATE10034-96-5	
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 SULFATE7446-19-7	
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 ACID77-92-9	
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)
FERROUS SULFATE7782-63-0	
Persistence and degradability	Biodegradability in soil: no data available. Readily biodegradable in water.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
MANGANESE SULFATE10034-96-5	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
ZINC SULFATE7446-19-7	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

PUMP

Safety Data Sheet

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

12.3. Bioaccumulative potential

CITRIC ACID77-92-9

BCF - Other aquatic organisms [1]	3.2 l/kg (Calculated value)
Partition coefficient n-octanol/water (Log Pow)	-1.8 – -1.55 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.

FERROUS SULFATE7782-63-0

BCF - Fish [1]	≤ 20 (OECD 305: Bioconcentration: Flow-Through Fish Test, 28 day(s), Cyprinus carpio, Flow-through system, Fresh water, Read-across, Fresh weight)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

ZINC SULFATE7446-19-7

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 ACID77-92-9

Ecology - soil	No (test)data on mobility of the substance available.
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FERROUS SULFATE7782-63-0

Ecology - soil	Adsorbs into the soil.
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ZINC SULFATE7446-19-7

Ecology - soil	No (test)data on mobility of the substance available.
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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.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.

SECTION 14: Transport information

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Not applicable
Proper Shipping Name (TDG)	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable

PUMP

Safety Data Sheet

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

DOT

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

TDG

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

IMDG

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

IATA

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

14.4. Packing group

Packing group (DOT) : Not applicable

Packing group (TDG) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

No data available

TDG

No data available

IMDG

No data available

IATA

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:

FERROUS SULFATE	CAS-No. 7782-63-0	10 – 20%
MANGANESE SULFATE	CAS-No. 10034-96-5	1 – 5%
ZINC SULFATE	CAS-No. 7446-19-7	1 – 5%

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

PUMP

Safety Data Sheet

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Zinc Sulfate	CAS-No. 7733-02-0	0 – 0.001%
Copper(II) Sulfate	CAS-No. 7758-98-7	0 – 0.001%

FERROUS SULFATE7782-63-0

CERCLA RQ 1000 lb

15.2. International regulations

CANADA

CITRIC ACID77-92-9

Listed on the Canadian DSL (Domestic Substances List)

FERROUS SULFATE7782-63-0

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

MANGANESE SULFATE10034-96-5

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

ZINC SULFATE7446-19-7

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

CITRIC ACID77-92-9

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

No additional information available

SECTION 16: Other information

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Full text of hazard classes and H-statements

H315	Causes skin irritation
H318	Causes serious eye damage
H373	May cause damage to organs through prolonged or repeated exposure

Safety Data Sheet (SDS), USA 2

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.