

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name **FB-1559**

Other means of identification

Product Code 21559

Recommended use of the chemical and restrictions on use

Recommended Use Scale Inhibitor

Uses advised against Follow the directions for use on the label when applying this product

Details of the supplier of the safety data sheet

Manufacturer Address

PSSI Chemical Innovations
3729 Peddle Hollow Road
Kieler, WI 53812 USA

Emergency telephone number

Company Phone Number 888-671-5366
Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 1
Skin corrosion/irritation	Category 2
Specific target organ toxicity (repeated exposure)	Category 2
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Corrosive to metals	Category 1

Label elements

Emergency Overview

DANGER

Hazard statements

Causes serious eye damage
Causes skin irritation
May cause damage to organs through prolonged or repeated exposure
Harmful if inhaled
May be corrosive to metals



Physical state Aqueous solution **Color** Colorless to yellowish **Odor** Characteristic

Precautionary Statements - Prevention

Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Do not breathe dusts or mists
Use only outdoors or in a well-ventilated area
Keep only in original container

Precautionary Statements - Response

Specific treatment (see Section 4 on SDS)
Get medical advice/attention if you feel unwell
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor
IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell

SPILL: Absorb spillage to prevent material damage

Precautionary Statements - Storage

Store in corrosive resistant container with a resistant inner liner

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

- Toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
Water	7732-18-5	50-90
Ethylenediaminetetraacetic acid tetrasodium salt	64-02-8	10-50
Sodium hydroxyacetate	2836-32-0	1-5
Sodium hydroxide	1310-73-2	1-5
Nitrilotriacetic acid, trisodium salt	5064-31-3	1-5

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

Eye contact

Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. Seek immediate medical attention/advice.

Skin contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. Get medical attention if irritation develops and persists.

Inhalation

Remove to fresh air. Administer oxygen if breathing is difficult. Call a physician immediately.

Ingestion

Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician immediately.

Most important symptoms and effects, both acute and delayed

Symptoms

See Section 11 for symptom information.

Indication of any immediate medical attention and special treatment needed

Note to physicians

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Dry chemical. Water spray (fog). Carbon dioxide (CO2). Foam.

Unsuitable extinguishing media

No information available.

Specific hazards arising from the chemical

No information available.

Hazardous combustion products

Nitrogen oxides. Carbon oxides.

Explosion data

Sensitivity to Mechanical Impact

None.

Sensitivity to Static Discharge

None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers with flooding quantities of water until well after fire is out. Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions

Use personal protection recommended in Section 8. Ensure adequate ventilation, especially in confined areas. Stay upwind.

For emergency responders

Isolate area. Keep unnecessary personnel away.

Environmental precautions

Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas. See section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Methods for cleaning up

Soak up with inert absorbent material. Collect spillage. Sweep up and shovel into suitable containers for disposal. Following product recovery, flush area with water.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Use only in well-ventilated areas. Avoid breathing vapors or mists. Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep from freezing.
Incompatible materials Amphoteric metals (aluminum, copper, zinc). Contact with metals may evolve flammable hydrogen gas.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering Controls Showers, eyewash stations, ventilation system.

Individual protection measures, such as personal protective equipment

Eye/face protection Splash proof chemical goggles and face shield.
Skin and body protection Chemical resistant gloves, suit and boots.
Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Wash face, hands and any exposed skin thoroughly after handling. Wash contaminated clothing and shoes before reuse. Do not eat, drink or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Aqueous solution	Odor	Characteristic
Appearance	Liquid	Odor threshold	No information available
Color	Colorless to yellowish	Remarks • Method	
Property	Values		
pH	11.5	(1% solution)	
Melting point / freezing point	-25 °C / -13 °F		
Boiling point / boiling range	106 °C / 223 °F		
Flash point	Not flammable		
Evaporation rate	< 0.8		
Flammability (solid, gas)	No information available		
Flammability Limit in Air			
Upper flammability limit:	No information available		
Lower flammability limit:	No information available		
Vapor pressure	3.2 kPa @ 20 °C		
Vapor density	No information available		
Specific Gravity	1.31 g/cc		
Water solubility	Soluble in water		
Solubility in other solvents	No information available		
Partition coefficient	No information available		
Autoignition temperature	No information available		
Decomposition temperature	No information available		
Kinematic viscosity	20 cSt @ 20°C		
Dynamic viscosity	No information available		
Explosive properties	No information available		
Oxidizing properties	No information available		
VOC Content (%)	No information available		

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Elevated temperatures.

Incompatible materials

Amphoteric metals (aluminum, copper, zinc). Contact with metals may evolve flammable hydrogen gas.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation Mist from this product may cause irritation of upper respiratory tract (nose and throat). Prolonged excessive exposure to mist may cause serious adverse effects.

Eye contact Solution will irritate or burn. Permanent eye damage is possible.

Skin Contact Prolonged contact may cause irritation. Mist may cause skin irritation.

Ingestion Swallowing causes severe burns of mouth, throat and stomach. May irritate or burn tissue of gastrointestinal tract.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ethylenediaminetetraacetic acid tetrasodium salt 64-02-8	= 10 g/kg (Rat) = 1658 mg/kg (Rat)	-	-
Sodium hydroxyacetate 2836-32-0	= 7110 mg/kg (Rat)	-	-
Sodium hydroxide 1310-73-2	140 - 340 mg/kg (Rat)	= 1350 mg/kg (Rabbit)	-
Nitrilotriacetic acid, trisodium salt 5064-31-3	= 1100 mg/kg (Rat)	-	> 5 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity Although large dietary doses of Nitrilotriacetic acid (NTA) have caused urinary tumors in laboratory animals, there is little likelihood that NTA could cause cancer in humans, especially at subtoxic doses. The trisodium salt of ethylenediaminetetraacetic acid did not cause cancer in laboratory animals.

Chemical Name	ACGIH	IARC	NTP	OSHA
Nitrilotriacetic acid, trisodium salt 5064-31-3	-	Group 2B	-	X

Legend

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure In animals, effects have been reported on the following organs: Kidney. Urinary Tract. Respiratory system.

Aspiration hazard Risk of serious damage to the lungs (by aspiration).

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity 0 % of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document

Oral LD50 1,103.10 mg/kg
Dermal LD50 84,375.00 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Ethylenediaminetetraacetic acid tetrasodium salt 64-02-8	1.01: 72 h Desmodesmus subspicatus mg/L EC50	41: 96 h Lepomis macrochirus mg/L LC50 static 59.8: 96 h Pimephales promelas mg/L LC50 static	610: 24 h Daphnia magna mg/L EC50
Sodium hydroxide 1310-73-2	-	45.4: 96 h Oncorhynchus mykiss mg/L LC50 static	-

Nitritotriacetic acid, trisodium salt 5064-31-3	560 - 1000: 96 h Chlorella vulgaris mg/L EC50	93 - 170: 96 h Pimephales promelas mg/L LC50 flow-through 252: 96 h Lepomis macrochirus mg/L LC50 560 - 1000: 96 h Oryzias latipes mg/L LC50 560 - 1000: 96 h Poecilia reticulata mg/L LC50 semi-static 560 - 1000: 96 h Oryzias latipes mg/L LC50 semi-static 72 - 133: 96 h Oncorhynchus mykiss mg/L LC50 static 175 - 225: 96 h Lepomis macrochirus mg/L LC50 static 470: 96 h Pimephales promelas mg/L LC50 static 560 - 1000: 96 h Poecilia reticulata mg/L LC50 114: 96 h Pimephales promelas mg/L LC50	560 - 1000: 48 h Daphnia magna mg/L LC50
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Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility

Soluble in water.

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Dispose of in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT

UN/ID No.	3267
Proper shipping name	Corrosive liquid, basic, organic, n.o.s. (contains sodium hydroxide, tetrasodium ethylenediamine tetraacetate)
Hazard Class	8
Packing Group	III

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies

Legend:

- TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hydroxide 1310-73-2	1000 lb	-	-	X

CERCLA

This material, as supplied, contains one or more substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Sodium hydroxide 1310-73-2	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Sodium hydroxide 1310-73-2	X	X	X
Nitritotriacetic acid, trisodium salt 5064-31-3	-	X	-

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

NFPA Health hazards 3 Flammability 0 Instability 0 **Physical and Chemical Properties** Corrosive, Alkaline
HMIS Health hazards 3 Flammability 0 Physical hazards 0 **Personal protection** D (face shield, gloves, synthetic apron)

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The health hazards given on this SDS apply to this product in its concentrated form (as supplied) and may differ significantly at use dilution. The signs and symptoms of exposure apply only to negligence in handling or misuse of the concentrated product and not to the routine exposure of the diluted product under conditions of ordinary use.

End of Safety Data Sheet