SAFETY DATA SHEET

Section 1 - Identification of the substance/mixture and of the supplier

Trade Name: Krystal Klear® Fe

Product Code: KKFe

Chemical Name: EDTA & IDS chelated iron solution

Application/Uses: Fertilizing Compound

Restrictions: None

Distributor Information: **PERFORMANCE NUTRITION -** A Division of LidoChem LLC 20 Village Court, Hazlet, NJ 07730
Phone: (732) 888 8000 • Fax: (732) 264 2751 • email: info@lidochem.com

Emergency Phone Number: **CHEMTREC - Day or Night - at 800 424 9300**

Section 2 - Hazard Identification

Classification of the substance or mixture (GHS-US)

Acute oral toxicity 4
Acute inhalation toxicity 4
Acute dermal toxicity 4
Skin corrosion/irritation 2
Serious eye damage/eye irritation 2B
STOT SE 3 (irritating to respiratory system)

Physical Hazards

Combustible liquid

Hazard Statements

H227: Combustible liquid

H302: Harmful if swallowed

H312: Harmful in contact with skin

H315: Causes skin irritation

H320: Causes eye irritation

H332: Harmful if inhaled

H335: May cause respiratory irritation

H336: May cause drowsiness or dizziness

GHS Label elements

Hazard Pictograms

Signal Word

Warning

HNOC - Hazards Not Otherwise Classified

None

Precautionary Statements:

Precautionary Statements - Prevention, Response, Storage, Disposal

P210: Keep away from heat, sparks, open flames, hot surfaces and other ignition sources. No smoking.

P261: Avoid breathing fume/mist/vapours/spray.

P264: Wash skin thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301 + P312 + P330: IF SWALLOWED: Call a poison control center or doctor/physician if you feel unwell. Rinse mouth.

P302 + P352 + P312: IF ON SKIN: Wash with plenty of soap and water. Call a poison center or doctor/physician if you feel unwell.

P332 + P313: If skin irritation occurs: Get medical advice/attention.

P304 + P340 + P312: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing

P337 + P313: If eye irritation persists: Get medical advice/attention.

P362 + P364: Take off contaminated clothing and wash it before reuse.

P370 + P378: In case of fire: Use water, dry powder, carbon dioxide, foam to extinguish.

P403 + P233: Store in a well-ventilated place. Keep container tightly closed.

P405: Store locked up.

P501: Dispose of contents/container to an approved waste disposal plant in accordance with local/regional/national regulations.

Section 3 - Composition/Information on Ingredients

Chemical Identity: **4% Fe**

CAS#:	Common Name/Synonyms:	% by Wt.
10025-77-1	Iron (III) chloride, hexahydrate	28-31%
60-00-4	Ethylenediaminetetraacetic acid	11-13%
141-43-5	Monoethanolamine	10-13%

Section 4 - First Aid Measures

Description of first aid measures

General Advice:

Remove contaminated clothing and shoes. Seek medical advice immediately and show safety data sheet or label to the doctor, if possible.

If Inhaled:

Remove person from contaminated area to fresh air. If not breathing, give artificial respiration. Seek medical attention if irritation or dizziness occurs.

In Case Of Skin Contact:

Remove contaminated clothing and wash before re-using. Flush skin with water and then wash with soap and water. Seek medical attention if irritation persists.

In Case Of Eye Contact:

Flush eyes with clean water for at least 15 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. Seek medical attention immediately.

If Swallowed:

Seek medical attention or call a poison control center immediately. Do not induce vomiting unless instructed to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed:

The most important known symptoms and effects are described in section 2. Further symptoms are possible.

Indication of any immediate medical attention and special treatment needed:

No additional information available.

Section 5 - Fire-fighting Measures

Extinguishing media:

Suitable extinguishing media: water, dry powder, carbon dioxide, foam.
Unsuitable extinguishing media: Do not use a heavy water stream.

Specific Hazards arising from the substance or mixture:

Thermal decomposition generates corrosive vapors.
Carbon oxides and nitrogen oxides may form.

Advice for firefighters:

Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face piece operated in positive pressure mode.

Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Section 6 - Accidental release measures

Personal precautions, protective equipment and emergency procedures:

As outlined in section 8, wear appropriate respiratory protection. Avoid breathing fume, vapours, spray, mist or gas. Use personal protective clothing. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions:

Do not allow spilled product to enter water supplies.

Methods and materials for containment and cleaning up:

Spills should be contained by diking area with sand or soil. Cover contained spill with an inert absorbent material such as sand, vermiculite or other appropriate material. Vacuum, scoop or sweep up material and place in a container for disposal. Do not place spilled material back into the original container.

Section 7- Handling and Storage

Precautions for safe handling:

Do not eat, drink or smoke when using this product. Wash hands and other exposed areas thoroughly after handling. Provide adequate ventilation. Protect packages against physical damage. Reseal containers immediately after use. Immediately remove and dispose of any spilled material.

Conditions for safe storage, including any incompatibilities:

Keep container tightly closed in a dry and well ventilated area.
Incompatible products: strong bases, metals.

Section 8 - Exposure Control / Personal Protection

Control parameters:

Chemical Identity:	CAS #:	ACGIH Threshold Limit Values		OSHA PEL		NIOSH REL	
		TWA	STEL	TWA	STEL	TWA	STEL
Iron (III) chloride, hexahydrate	10025-77-1	1 mg/m^3	NDA	NDA	NDA	NDA	NDA
Ethylenediaminetetraacetic acid	60-00-4	NDA	NDA	NDA	NDA	NDA	NDA
Monoethanolamine	141-43-5	2 mg/m^3	6 mg/m^3	6 mg/m^3	15 mg/m^3	8 mg/m^3	15 mg/m^3

Appropriate engineering controls:

Provide sufficient ventilation to maintain airborne concentrations below the recommended exposure limits. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Individual protection measures, such as personal protective equipment:

Eye protection:

Tightly fitting safety goggles or face shield if a splashing hazard exists. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH.

Skin protection:

Handle with chemical resistant protective gloves. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Wash and dry hands.

Section 8 - Exposure Control / Personal Protection (cont.)

Body protection:

Body protection must be chosen depending on activity and possible exposure, i.e. apron, chemical resistant footwear plus socks, long sleeved shirt, long pants, chemical protection suit.

Respiratory protection:

Respiratory protection is not typically required if airborne concentrations are maintained below the established exposure limits. Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator. Do not exceed the maximum use concentration for the respirator facepiece/cartridge combination. For emergency or non-routine, high exposure situations, use a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions. Observe OSHA regulations for respirator use (29 CFR 1910.134)

General safety and hygiene measures:

Eye wash fountains and safety showers must be easily accessible. Employees should wash their hands and face before eating, drinking or using tobacco products.

Section 9 - Physical and Chemical Properties

Appearance (physical state, color, etc):	Clear, dark, reddish/brown liquid
Odor:	None
Odor threshold:	None
pH:	8.0 +/- 0.3
Melting point:	No data available
Freezing point:	No data available
Initial boiling point:	No data available
Boiling range:	No data available
Flash point:	81˚C (178˚F)
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Relative density:	No data available
Solubility:	Soluble
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available
Specific gravity:	1.27
Bulk Density:	Not Applicable

Section 10 - Stability and Reactivity

Reactivity:

No data available.

Chemical stability:

Product is stable at ambient temperature and pressure, under normal storage and handling conditions.

Possibility of hazardous reactions:

No data available.

Conditions to avoid (i.e. static discharge, shock or vibration):

No data available.

Incompatible materials:

Strong oxidizing agents, strong bases and acids.

Hazardous decomposition products:

Hydrogen chloride, iron oxide. Thermal decomposition generates corrosive vapors.

Section 11- Toxicological Information

Likely routes of exposure:

Inhalation, ingestion, skin and eye contact.

Symptoms related to physical, chemical and toxicological characteristics and delayed and immediate effects and chronic effects from short and long term exposure:

Acute Toxicity:

Acute oral - Ethanolamine: Estimated LD50 = 1,515 mg/kg. Ferric chloride: Estimated LD50 = 1,872 mg/kg. EDTA: Estimated LD50 = 4,500 mg/kg
Acute inhalation - Ethanolamine: Estimated LC50 = >1.3 mg/l.
Acute dermal - Ethanolamine: Estimated LD50 = 2,504 mg/kg.

Skin corrosion/irritation:

Immediate contact may cause irritation. Repeated exposure may lead to itch, rash, dermatitis or other reaction.

Serious eye damage/eye irritation:

May cause eye irritation, including redness and inflammation based on component data.

Respiratory or skin sensitization:

No data available.

Carcinogenicity:

No data available.

Section 11- Toxicological Information (cont.)

Germ cell mutagenicity:

No data available.

Reproductive toxicity:

No data available.

Specific target organ toxicity - single or repeated exposure:

No data available on the mixture.
Ethanolamine: After repeated exposure, the prominent effect is local irritation. The substance may cause damage to the upper respiratory tract after repeated inhalation, as shown in animal studies.

Aspiration hazard:

No data available.

Symptoms after inhalation:

Harmful if inhaled. Can cause irritation of the upper respiratory tract with potential effects on the central nervous system.

Symptoms after skin contact:

May cause skin irritation.

Symptoms after eye contact:

May cause eye irritation including redness and inflammation.

Symptoms after ingestion:

Harmful if swallowed. Ingestion could have negative effects on the kidneys and liver.

Section 12- Ecological Information

Ecotoxicity (aquatic and terrestrial, where available):

Toxicity to fish (acute and chronic):

No data available for the mixture. Individual component data reported.
Ethanolamine: LC50: 349 mg/l, exposure time: 96 h, species: *Cyprinus carpio* (Carp), test type: semi-static test. Literature data.
Chronic: NOEC: 1.2 mg/l, exposure time: 30 d, species: *Oryzias latipes* (orange-red killifish), method: OECD test guideline 210. Literature data.
Ferric chloride, hexahydrate: LC50: 26 ppm iron, exposure time: 96 h, species: *Pisces,* LC50: 75.6 mg/l anyhdrous form, exposure time: 96 h, species: *Gambusia affinis*.
EDTA: LC50: 41 mg/l, exposure time: 96 h, species: *Lepomis macrochirus* (Bluegill sunfish), test type: static test.

Toxicity to daphnia and other aquatic invertebrates (acute and chronic):

No data available for the mixture. Individual component data reported.
Ethanolamine: EC50: 65 mg/l, exposure time: 48 h, species: *Daphnia magna* (water flea), test type: static test, method: 84/449/EEC C.2, Literature data. Chronic: NOEC: 0.85 mg/l, exposure time: 21 d, species: *Daphnia magna* (water flea), method: OECD test guideline 211. Literature data.
Ferric chloride, hexahydrate: EC50: 9.6 mg/l anhydrous form, exposure time: 48 h, species: *Daphnia magna* (water flea). EC50: 296-424 mg/l, exposure time: 96 h, species: *Crangon sp.*
EDTA: EC50: 625 mg/l, exposure time: 48 h, species: *Daphnia magna* (water flea).

Toxicity to algae:

No data available for the mixture. Individual component data reported.
Ethanolamine:
ErC50: 2.5 mg/l, exposure time: 72 h, species: *Pseudokirchneriella subcapitata* (green algae, test type: OECD test guideline 201. Literature data.

Section 12- Ecological Information (cont.)

Persistence and degradability:

No data available for the mixture.
Ethanolamine: readily biodegradable. Method OECD test guideline 301 E

Bioaccumulative potential:

No data available.

Mobility in the soil:

No data available.

Other adverse effects:

No data available.

Section 13 - Disposal Considerations

Waste treatment methods - product:

Dispose in accordance with all local, state and federal regulations. In unused condition, this product is not considered to be a RCRA defined hazardous waste by character/listings. It is the responsibility of the waster generator to evaluate whether this wastes are hazardous by characteristic/listing.

Waste treatment methods - container:

Containers should be cleaned of residual product before disposal. Empty containers should be disposed of in accordance with all applicable laws and regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented incomplete, inaccurate or otherwise inappropriate.

Section 14 - Transport Information - US DOT, IATA, IMO, ADR:

Proper Shipping Name:	Fertilizing Compound, NOI, Liquid - Krystal Klear® Fe		
D. O. T. Hazard Class:	Not Regulated by D.O.T.	**NMFC Item No.**	68140
Label Requirement:	None	**UN #:**	N/A
Placard:	None	**RQ:**	N/A
Packing Group:	N/A	**CAS:**	Mixture
Environment Hazards:		**ERG Book Information:**	Guide # 171
Special Precautions:		**Marine Pollutant:**	
		IATA:	

Section 15 - Regulatory Information

U.S. Federal - OSHA Status:

This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910,1200.

TSCA Status:

Listed/Reportable on the Active TSCA List

SARA Title III Section 302 - EXTREMELY HAZARDOUS SUBSTANCES:

This product does NOT contain ingredients listed in Appendix A and B as Extremely Hazardous substances.

Section 15 - Regulatory Information (cont.)

SARA Title III Sections 311/312:

N/Ap

SARA Section 313 Toxic Chemicals:

This product contains the following toxic chemical subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act:

CAS# **Chemical Name:**

This material does NOT contain any chemical components with known CAS numbers that exceed the threshold reporting levels.

SARA Superfund Section 110:

This product does NOT contain ingredients listed as hazardous substances on the Priority List of CERCLA Hazardous substances.

CERCLA, 40 CFR 117, 302:

This product does NOT contain ingredients specified in the List of Extremely Hazardous Substances.

CERCLA listed substances are:

Ethylendiamine tetraacetic Acid RQ 5000lbs

Other Federal Reporting Requirements:

CAA: This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act

CWA: No chemicals in product are listed a Hazardous Substances, Priority Pollutants or Toxic Pollutants under the CWA.

RCRA: Not a hazardous waste under RCRA.

State Reporting Requirements:

State Right to Know Laws:

CAS#	State RTK	Chemical Name
60-00-4	NJ, PA, MA CT, MA, MN, NJ, PA, RI	Ethylenediaminetetraacetic acid

CALIFORNIA PROPOSITION 65:

To the best of our knowledge, this product does NOT contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

Michigan Critical Materials:

This product does not contain ingredients listed on the Michigan Critical Materials Register.

Global Lists/International Inventories:

Canada CEPA: All components are listed on the Canadian DSL

Canada WHMIS: No Information Found

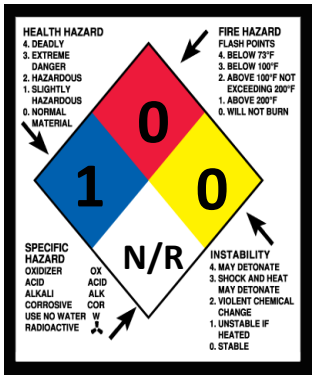
Section 16 - Other Information

Note Section 3: *Any concentration shown as a range is to protect confidentiality or is due to batch variation.*

8-20-18 - Reviewed, updated California Proposition 65 statement, this replaces all previous SDS's.

8-31-22 - Updated TSCA inventory - product is on the active TSCA list.

4-15-2024, Reviewed, updated Distributor name. The replaces all previous SDS's,



Date of last revision:
4-15-2024

NOTICE: OSHA STANDARD 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a Hazard Communication Program including training, labeling, Safety Data Sheets, and access to written records. We request that you, and it is your legal duty, make all information in this Safety Data Sheet available to your employees.

Key Legend Information:

N/Ap:	Not Applicable		
N/R:	Not Rated	ND:	Not Determined
ACGI	American Conference of Govr'ntal Industrial Hygienists	NDA:	No Data Available
OSHA:	Occupational Safety and Health Administration	TLV:	Threshold Limit Value
PEL:	Permissible Exposure Limit	TWA:	Time Weighted Average
STEL:	Short Term Exposure Limit	NTP:	National Toxicology Program
IARC:	International Agency for Research on Cancer	TSCA:	Toxic Substance Control Act
SARA Title III:	Superfund Amendments and Reauthorization Act	CERCLA:	Comprehensive Response, Compensation and Liability Act
CAA:	Clean Air Act	CWA:	Clean Water Act
RCRA:	Resource Conservation Recovery Act		
IATA:	International Air Transport Association Shipping Info.	IMO:	International Maritime Organization Shipping Info.
DSL:	Domestic Substance List (Canada)	WHMIS:	Workplace Hazardous Materials Information System

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind expressed or implied is made with respect to the information contained herein. This Safety Data Sheet was prepared to comply with OSHA Hazard Communication standard. (29 CFR 1910.1200 HazCom 2012). This supersedes any previous information. Since the actual use by others is beyond our control, no guarantee, expressed or implied, is made by LidoChem, Inc. as to the effects of such use or the results to be obtained, nor does LidoChem LLC assume any liability arising out of use, by others, of the products referred to herein. Nor is the information herein to be construed as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist because of applicable laws or government regulations. All LidoChem LLC SDS's are reviewed every three years or sooner if necessary. Please check the Review Date on Page 1 for most current version. Please request a new SDS from LidoChem LLC. if the date is older than 3 years.