Becton, Dickinson and Company
BD, Franklin Lakes, NJ
07417 USA
www.bd.com

SAFETY DATA SHEET

Classified in accordance 29 CFR 1910.1200

1. Identification

Product identifier

Product No.:	Product name:	Common name(s), synonym(s)
271310	BD Difco™ Middlebrook 7H9 Broth	No data available

Recommended restrictions

Recommended use: Laboratory Chemicals
Restrictions on use: None known.

Manufacturer/Importer/Distributor Information

Manufacturer

Company Name:	BD, Integrated Diagnostic Solutions
Address:	7 Loveton Circle Sparks, MD 21152 USA
Telephone:	1 844 823 5433
Fax:	not available
Contact Person:	Tech Services

Emergency telephone number: CHEMTREC 1 800 424 9300

2. Hazard(s) identification

Hazard Classification

Environmental Hazards

Acute hazards to the aquatic environment	Category 3

Label Elements

Hazard Symbol: No symbol

Signal Word: No signal word.

Hazard Statement: H402: Harmful to aquatic life.

Becton, Dickinson and Company
BD, Franklin Lakes, NJ
07417 USA
www.bd.com

Precautionary Statements

Prevention: P273: Avoid release to the environment.

Disposal: P501: Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
Ammonium iron(III) citrate	No data available.	1185-57-5	0.8522%
Sulfuric acid copper(2+) salt (1:1)	No data available.	7758-98-7	0.0213%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Description of necessary first-aid measures

General information: Get medical attention if symptoms occur.

Inhalation: Provide fresh air, warmth and rest, preferably in comfortable upright sitting position.

Skin Contact: Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses.

Becton, Dickinson and Company
BD, Franklin Lakes, NJ
07417 USA
www.bd.com

Ingestion:	Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.
Personal Protection for First-aid Responders:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Most important symptoms/effects, acute and delayed

Symptoms:	No data available.
Hazards:	No data available.

Indication of immediate medical attention and special treatment needed

Treatment:	No data available.

5. Fire-fighting measures

General Fire Hazards:	Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Use water spray to keep fire-exposed containers cool.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media:	Not applicable
Specific hazards arising from the chemical:	Fire or excessive heat may produce hazardous decomposition products.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No unusual fire or explosion hazards noted.
Special protective equipment for fire-fighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Becton, Dickinson and Company
BD, Franklin Lakes, NJ
07417 USA
www.bd.com

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Contact local authorities in case of spillage to drain/aquatic environment. Ensure suitable personal protection (including respiratory protection) during removal of spillages in a confined area.

Methods and material for containment and cleaning up: Absorb spillage with suitable absorbent material. Prevent runoff from entering drains, sewers, or streams. See Section 8 of the SDS for Personal Protective Equipment. For waste disposal, see section 13 of the SDS.

Environmental Precautions: Avoid release to the environment.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation): No special requirements under ordinary conditions of use and with adequate ventilation.

Safe handling advice: When using do not eat, drink or smoke. Read and follow manufacturer's recommendations. Use personal protective equipment as required.

Contact avoidance measures: No data available.

Storage

Safe storage conditions: Store in a cool, dry place. Keep container tightly closed.

Safe packaging materials: No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Ammonium iron(III) citrate - as Fe	TWA	1 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended
	TWA	1 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A, as amended
Ammonium iron(III) citrate	ST ESL	10 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended

Becton, Dickinson and Company
BD, Franklin Lakes, NJ
07417 USA
www.bd.com

	AN ESL	1 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended
Ammonium iron(III) citrate - as Fe	TWA PEL	1 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants, as amended
	TWA	1 mg/m3	US. ACGIH Threshold Limit Values, as amended
	REL	1 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended
Sulfuric acid copper(2+) salt (1:1) - Dust.	AN ESL	1 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended
	ST ESL	10 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended
Sulfuric acid copper(2+) salt (1:1) - Dust and mist. - as Cu	TWA PEL	1 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants, as amended
	TWA	1 mg/m3	US. ACGIH Threshold Limit Values, as amended
Sulfuric acid copper(2+) salt (1:1) - Fume. - as Cu	TWA	0.2 mg/m3	US. ACGIH Threshold Limit Values, as amended
Sulfuric acid copper(2+) salt (1:1) - Dust and mist. - as Cu	REL	1 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended
Sulfuric acid copper(2+) salt (1:1) - Fume. - as Cu	REL	0.1 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended

Please refer to the latest edition of the appropriate source text and consult an industrial hygienist or similar professional, or local agencies, for further information.

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

Appropriate Engineering Controls No special requirements under ordinary conditions of use and with adequate ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin Protection

Hand Protection: Material: Chemical resistant gloves
Additional Information: Wash hands after contact.Material: Suitable gloves can be recommended by the glove supplier.

Skin and Body Protection: Wear a lab coat or similar protective clothing.

Becton, Dickinson and Company
BD, Franklin Lakes, NJ
07417 USA
www.bd.com

Respiratory Protection:	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
Hygiene measures:	Observe good industrial hygiene practices.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	
Physical state:	solid
Form:	solid
Color:	According to product specification.
Odor:	Characteristic
Odor Threshold:	No data available.
Melting Point:	No data available.
Boiling Point:	No data available.
Flammability:	Not applicable
Upper/lower limit on flammability or explosive limits	
Explosive limit - upper:	Not applicable
Explosive limit - lower:	Not applicable
Flash Point:	Not applicable
Self Ignition Temperature:	Not determined.
Decomposition Temperature:	Not applicable
pH:	No data available.
Viscosity	
Dynamic viscosity:	Not determined.
Kinematic viscosity:	Not determined.
Flow Time:	Not applicable
Solubility(ies)	
Solubility in Water:	Completely Soluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	Not applicable
Vapor pressure:	No data available.
Relative density:	No data available.
Density:	No data available.
Bulk density:	Not applicable

Becton, Dickinson and Company
BD, Franklin Lakes, NJ
07417 USA
www.bd.com

Vapor density (air=1):	Not applicable
Particle characteristics	
Particle Size:	Not applicable
Particle Size Distribution:	Not applicable
Specific surface area:	Not applicable
Surface charge/Zeta potential:	Not applicable
Assessment:	Not applicable
Shape:	Not applicable
Crystallinity:	Not applicable
Surface treatment:	Not applicable

Other information

Metal Corrosion:	Non-corrosive per US Department of Transportation testing protocol.

10. Stability and reactivity

Reactivity:	Material is stable under normal conditions.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Stable
Conditions to avoid:	Avoid exposure to high temperatures or direct sunlight.
Incompatible Materials:	Metals. Water reactive material.
Hazardous Decomposition Products:	Stable; however, may decompose if heated.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Becton, Dickinson and Company
BD, Franklin Lakes, NJ
07417 USA
www.bd.com

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product:	ATEmix: 5,505.2 mg/kg
Components:	
Ammonium iron(III) citrate	No data available.
Copper sulphate	LD 50 (Rat): 482 mg/kg Experimental result, Key study LD 50 (Rat): 481 mg/kg Experimental result, Key study

Dermal

Product:	ATEmix: 9,388 mg/kg
Components:	
Ammonium iron(III) citrate	No data available.
Copper sulphate	LD 50 (Rat): > 2,000 mg/kg Experimental result, Key study

Inhalation

Product:	Not classified for acute toxicity based on available data.
Components:	
Ammonium iron(III) citrate	No data available.
Copper sulphate	No data available.

Repeated dose toxicity

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Copper sulphate	NOAEL (Rat(Female, Male), Oral, 92 d): 1,000 ppm(m) Oral Experimental result, Key study LOAEL (Rat(Female, Male), Oral, 92 d): 2,000 ppm(m) Oral Experimental result, Key study LOAEL (Rat(Female, Male), Inhalation): 0.2 mg/m3 Inhalation Experimental

Becton, Dickinson and Company
BD, Franklin Lakes, NJ
07417 USA
www.bd.com

	result, Key study LOAEL (Mouse(Female, Male), Oral, 92 d): 2,000 ppm(m) Oral Experimental result, Key study NOAEL (Mouse(Female, Male), Oral, 92 d): 1,000 ppm(m) Oral Experimental result, Key study

Skin Corrosion/Irritation

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Copper sulphate	in vivo (Rabbit): Not irritant

Serious Eye Damage/Eye Irritation

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Copper sulphate	No data available.

Respiratory or Skin Sensitization

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Copper sulphate	No data available.

Carcinogenicity

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Copper sulphate	No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogens present or none present in regulated quantities

ACGIH: US.ACGIH Threshold Limit Values:
No carcinogens present or none present in regulated quantities

Becton, Dickinson and Company
BD, Franklin Lakes, NJ
07417 USA
www.bd.com

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogens present or none present in regulated quantities

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended:
No carcinogens present or none present in regulated quantities

Germ Cell Mutagenicity

In vitro

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Copper sulphate	No data available.

In vivo

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Copper sulphate	No data available.

Reproductive toxicity

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Copper sulphate	No data available.

Specific Target Organ Toxicity - Single Exposure

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Copper sulphate	No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product:	No data available.
Components:	

Becton, Dickinson and Company
BD, Franklin Lakes, NJ
07417 USA
www.bd.com

Ammonium iron(III) citrate	No data available.
Copper sulphate	No data available.

Aspiration Hazard

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Copper sulphate	No data available.

Information on health hazards

Other hazards

Product:	No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Sulfuric acid copper(2+) salt (1:1)	LC 50 (Rainbow trout, 24 h): 150 µg/l LC 50 (Goldfish, 96 h): 1,380 µg/l LC 50 (Goldfish, 24 h): 4,490 µg/l LC 50 (Green sunfish, 96 h): 3,510 µg/l LC 50 (Green sunfish, 24 h): 4,290 µg/l

Aquatic Invertebrates

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Sulfuric acid copper(2+) salt (1:1)	LC 50 (Daphnia magna, 48 h): 40 µg/l Read-across based on grouping of substances (category approach), Weight of Evidence study LC 50 (Daphnia magna, 48 h): 70 µg/l Read-across based on grouping of substances (category approach), Weight of Evidence study EC 50 (Daphnia magna, 48 h): 281 µg/l Experimental result, Weight of Evidence study

Becton, Dickinson and Company
BD, Franklin Lakes, NJ
07417 USA
www.bd.com

	LC 50 (Ceriodaphnia dubia, 48 h): 46.9 µg/l Read-across based on grouping of substances (category approach), Weight of Evidence study LC 50 (Ceriodaphnia dubia, 48 h): 14 µg/l Experimental result, Weight of Evidence study

Toxicity to Aquatic Plants

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Sulfuric acid copper(2+) salt (1:1)	No data available.

Toxicity to microorganisms

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Sulfuric acid copper(2+) salt (1:1)	No data available.

Chronic hazards to the aquatic environment:

Fish

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Sulfuric acid copper(2+) salt (1:1)	NOAEL (Pimephales promelas, 32 d): 4.8 µg/l Experimental result, Weight of Evidence study NOAEL (Pimephales promelas, 330 d): 33 µg/l Experimental result, Weight of Evidence study NOAEL (Atherinops affinis, 12 d): 63 µg/l Experimental result, Weight of Evidence study NOAEL (Perca fluviatilis, 30 d): 188 µg/l Experimental result, Weight of Evidence study NOAEL (Pimephales promelas, 330 d): 14.5 µg/l Experimental result, Weight of Evidence study

Aquatic Invertebrates

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Sulfuric acid copper(2+) salt (1:1)	NOAEL (Mytilus edulis, 48 h): 6.2 µg/l Experimental result, Weight of Evidence study NOAEL (Daphnia magna, 21 d): 28 µg/l Experimental result, Weight of Evidence study EC 50 (Various, 48 h): 14.4 µg/l Experimental result, Weight of Evidence

Becton, Dickinson and Company
BD, Franklin Lakes, NJ
07417 USA
www.bd.com

	study NOAEL (Ceriodaphnia sp., 7 d): 10 µg/l Experimental result, Weight of Evidence study LC 50 (E. affinis, 96 h): 71 µg/l Experimental result, Weight of Evidence study

Toxicity to Aquatic Plants

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Sulfuric acid copper(2+) salt (1:1)	No data available.

Toxicity to microorganisms

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Sulfuric acid copper(2+) salt (1:1)	No data available.

Persistence and Degradability

Biodegradation

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Sulfuric acid copper(2+) salt (1:1)	No data available.

BOD/COD Ratio

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Sulfuric acid copper(2+) salt (1:1)	No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Sulfuric acid copper(2+) salt (1:1)	Eisenia andrei, Bioconcentration Factor (BCF): 0.3 - 1 Terrestrial Experimental result, Weight of Evidence study

Partition Coefficient n-octanol / water (log Kow)

Product:	No data available.

Becton, Dickinson and Company
BD, Franklin Lakes, NJ
07417 USA
www.bd.com

Components:

Ammonium iron(III) citrate	No data available.
Sulfuric acid copper(2+) salt (1:1)	No data available.

Mobility in soil:

Product	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Sulfuric acid copper(2+) salt (1:1)	No data available.

Results of PBT and vPvB assessment:

Product	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Sulfuric acid copper(2+) salt (1:1)	No data available.

Other adverse effects:

Other hazards

Product:	No data available.
Components:	
Ammonium iron(III) citrate	No data available.
Sulfuric acid copper(2+) salt (1:1)	No data available.

13. Disposal considerations

General information:	Dispose of waste and residues in accordance with local authority requirements.
Disposal methods:	Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Contaminated Packaging:	No data available.

Becton, Dickinson and Company
BD, Franklin Lakes, NJ
07417 USA
www.bd.com

14. Transport information

DOTUN Number:	Not regulated.
UN Proper Shipping Name:	Not regulated.
Transport Hazard Class(es)	
Class:	Not regulated.
Label(s):	Not regulated.
Packing Group:	Not regulated.
Marine Pollutant:	Not regulated.
Limited quantity	Not regulated.
Excepted quantity	Not regulated.
Special precautions for user:	Not regulated.

IMDG

UN Number:	Not regulated.
UN Proper Shipping Name:	Not regulated.
Transport Hazard Class(es)	
Class:	Not regulated.
Subsidiary risk:	Not regulated.
EmS No.:	Not regulated.
Packing Group:	Not regulated.
Environmental Hazards	
Marine Pollutant:	Not regulated.
Special precautions for user:	Not regulated.

IATA

UN Number:	Not regulated.
Proper Shipping Name:	Not regulated.
Transport Hazard Class(es):	
Class:	Not regulated.
Subsidiary risk:	Not regulated.
Packing Group:	Not regulated.
Environmental Hazards	
Marine pollutant:	Not regulated.
Special precautions for user:	Not regulated.

15. Regulatory information

US Federal Regulations

Becton, Dickinson and Company
BD, Franklin Lakes, NJ
07417 USA
www.bd.com

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Chemical Identity	Reportable quantity
Ammonium Sulfate	De minimis concentration: 1.0% One-Time Export Notification only.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity
Phosphoric acid, sodium salt (1:2)
Ammonium iron(III) citrate
Sulfuric acid copper(2+) salt (1:1)
Zinc sulphate

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Not classified

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

None present or none present in regulated quantities.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

Chemical Identity	% by weight
Ammonium Sulfate	1.0%

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

Chemical Identity
Phosphoric acid, sodium salt (1:2)
Ammonium iron(III) citrate
Sulfuric acid copper(2+) salt (1:1)
Zinc sulphate

US State Regulations

Becton, Dickinson and Company
BD, Franklin Lakes, NJ
07417 USA
www.bd.com

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Phosphoric acid, sodium salt (1:2)

US. Massachusetts RTK - Substance List

Chemical Identity
Phosphoric acid, sodium salt (1:2)
Ammonium Sulfate

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Phosphoric acid, sodium salt (1:2)
Ammonium Sulfate

US. Rhode Island RTK

Chemical Identity
Ammonium Sulfate

International regulations

Montreal protocol
Not applicable

Stockholm convention
Not applicable

Rotterdam convention
Not applicable

Kyoto protocol
Not applicable

16.Other information, including date of preparation or last revision

Issue Date:	10/07/2021
Version #:	2.1
Source of information:	European Chemicals Agency (ECHA): Information on Chemicals.
Further Information:	No data available.

Becton, Dickinson and Company
BD, Franklin Lakes, NJ
07417 USA
www.bd.com

Disclaimer:

Disclaimer:
The information contained herein has been obtained from various sources and is believed to be correct as of the date issued. However, neither BD nor any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability for a particular use of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. BD provides SDS in electronic form so the information may be more easily accessed. Due to the possibility of errors during transmission, BD makes no representations as to the completeness or accuracy of the information.