

according to UK REACH Regulation

Colloidal Iron Solution (Stock Solution) after MUELLER

Revision date: 02.08.2023

Product code: 13674.xxxxx

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Colloidal Iron Solution (Stock Solution) after MUELLER

UFI:

60V6-21WK-500C-1DG8

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture

Use as laboratory reagent. The product is intended for research, analysis and scientific education.

Uses advised against

Any non-intended use.

1.3. Details of the supplier of the safety data sheet

efax: +49 (0) 69 / 400 3019-64
49(0)6131/19240

number:

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Skin Corr. 1; H314 Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

Danger

2.2. Label elements

GB CLP Regulation

Signal word:

Pictograms:



Hazard statements

H314

Causes severe skin burns and eye damage.

Precautionary statements

scautionaly statemen	
P260	Do not breathe mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with
	water or shower.
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/doctor.
pecial labelling of cert	ain mixtures

Special labelling of certain mixtures EUH208 Contains Iron(III)

Contains Iron(III) chloride. May produce an allergic reaction.

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2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulating and toxic (PBT) or very persistent and very bioaccumulating (vPvB) at levels of 0.1% or higher. Ecological information: The substance/mixture does not contain any components that are considered to be hazardous according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in amounts of 0.1% or more have endocrine disrupting properties. Toxicological information: The substance/mixture does not contain any components that are to be classified according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in quantities of 0.1% or more have endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

wässrige Lösung

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
7705-08-0	Iron(III) chloride	Iron(III) chloride		
	231-729-4		01-2119497998-05	
	Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, Skin Sens. 1; H302 H315 H318 H317			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. L	imits, M-factors and ATE	
7705-08-0	231-729-4	Iron(III) chloride	< 1 %
	dermal: LD50 =	: >2000 mg/kg; oral: LD50 = 450 mg/kg	

Further Information

This product contains no substances of very high concern (SVHC) (>0,1%) which are included in the Candidate List according to Article 59 of REACH.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

If breathing is irregular or stopped, administer artificial respiration. Medical treatment necessary. When in doubt or if symptoms are observed, get medical advice. Provide fresh air. In case of allergic symptoms, especially in the breathing area, seek medical advice immediately.

After contact with skin

If skin irritation occurs: Get medical advice/attention. After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In case of eye irritation consult an ophthalmologist.

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After ingestion

Rinse mouth immediately and drink 1 glass of of water. Do NOT induce vomiting. Adverse human health effects and symptoms: Gastric perforation. Call a physician immediately. Do not allow a neutralisation agent to be drunk. Rinse mouth immediately and drink plenty of water. Observe risk of aspiration if vomiting occurs. Immediately call a POISON CENTER/doctor/. Induce vomiting when the affected person is not unconscious.

4.2. Most important symptoms and effects, both acute and delayed

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings. The product itself does not burn.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Non-flammable. In case of fire may be liberated: Carbon monoxide Carbon dioxide (CO2). Hydrogen chloride (HCI).

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up

For cleaning up

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

Other information

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Rinse with water.

6.4. Reference to other sections

Safe handling: see section 7 Personal protection equipment: see section 8 Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Wear suitable protective clothing. (See section 8.) Take off contaminated clothing



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and wash it before reuse. Protect skin by using skin protective cream.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat. drink, smoke, sniff. Take off immediately all contaminated clothing and wash it before reuse. Draw up and observe skin protection programme. Always close containers tightly after the removal of product.

Further information on handling

Conditions to avoid: Generation/formation of aerosols

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations. Keep container tightly closed and in a well-ventilated place. Recommended storage temperature: 15-25 °C Unsuitable materials for Container: metal.

Hints on joint storage

Do not store together with: Oxidizing substances. Food and fodder

Further information on storage conditions

Keep/Store only in original container.

7.3. Specific end use(s)

Use as laboratory reagent.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
7705-08-0	Iron(III) chloride			
Worker DNEL,	long-term	dermal	systemic	2,8 mg/kg bw/day

Additional advice on limit values

To date, no national critical limit values exist.

8.2. Exposure controls





Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Provide adequate ventilation as well as local exhaustion at critical locations. Use extractor hood (laboratory).

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection: goggles. Tightly sealed safety glasses. EN 166

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the



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specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Pull-over gloves of rubber. EN ISO 374 Suitable material: (penetration time (maximum wearing period): >= 8 Stunden): NR (Natural rubber (Caoutchouc), Natural latex). (0,5 mm) CR (polychloroprenes, Chloroprene rubber). (0,5 mm) NBR (Nitrile rubber). (0,11 mm) FKM (fluororubber). (0,4 mm) PVC (Polyvinyl chloride). (0,5 mm) Butyl rubber. (0,5 mm) Before using check leak tightness / impermeability. In the case of wanting to use the gloves again, clean them before taking off and air them well.

Skin protection

Use of protective clothing. Suitable protective clothing: Lab apron.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. With correct and proper use, and under normal conditions, breathing protection is not required. Respiratory protection necessary at: generation/formation of aerosols Suitable respiratory protective equipment: particulates filter device (DIN EN 143). Partikelfilter P2/ P3

Environmental exposure controls

Do not empty into drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid	
Colour:	brownish	
Odour:	odourless	
Odour threshold:	not determined	
Melting point/freezing point:		No information available.
Boiling point or initial boiling point and		~100 °C
boiling range:		
Flammability:		not applicable
Lower explosion limits:		not determined
Upper explosion limits:		not determined
Flash point:		non-flammable
Auto-ignition temperature:		not applicable
Decomposition temperature:		not determined
pH-Value (at 20 °C):		1-2
Viscosity / kinematic:		not determined
Water solubility:		completely miscible
(at 20 °C)		
Solubility in other solvents		
not determined		
Partition coefficient n-octanol/water:		not determined
Vapour pressure:		not determined
Vapour pressure:		not determined
Density (at 20 °C):		1,00 g/cm³
Bulk density:		not determined
Relative vapour density:		not determined
Particle characteristics:		not applicable
2 Other information		

9.2. Other information

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Information with regard to physical hazard classes Explosive properties The product is not: Explosive. The product is not: Explosive.	
Sustaining combustion:	Not sustaining combustion
Self-ignition temperature	-
Solid:	not applicable
Gas:	not applicable
Oxidizing properties	
Not oxidising.	
Other safety characteristics	
Evaporation rate:	not determined
Solid content:	not determined
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not applicable
Viscosity / dynamic:	not determined
Flow time:	not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

Possibility of hazardous reactions. Stable under normal storage and handling conditions.

10.2. Chemical stability

Stable under normal storage and handling conditions.

10.3. Possibility of hazardous reactions

Exothermic reaction with: Base, Peroxides, Oxidizing agent. Violent reaction with: alkalines

10.4. Conditions to avoid

Protect against: heat. frost.

10.5. Incompatible materials

Keep away from: Base, Oxidizing agent, Peroxides. Alkali metals. May be corrosive to metals. Reducing agents, strong. strong alkalis. Strong acid. Oxidizing agents, strong.

10.6. Hazardous decomposition products

In case of fire may be liberated: Carbon monoxide Carbon dioxide (CO2). Hydrogen chloride (HCI).

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Acute toxicity

Based on available data, the classification criteria are not met.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
7705-08-0	Iron(III) chloride					
		LD50 mg/kg	450	Rat	Gestis	
		LD50 mg/kg	>2000	Rabbit	Gestis	



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Irritation and corrosivity

Causes severe skin burns and eye damage. (On basis of test data) Causes serious eye damage. (On basis of test data)

Sensitising effects

Contains Iron(III) chloride. May produce an allergic reaction.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

Other information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
7705-08-0	Iron(III) chloride					
	Acute fish toxicity	LC50 20,95- 22,56 mg/l		Pimephales promelas (fathead minnow)	suppliers SDS.	
	Acute crustacea toxicity	EC50 27,9 mg/l		Daphnia magna (Big water flea)	suppliers SDS.	

12.2. Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

No information available.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
7705-08-0	Iron(III) chloride	-4

BCF

CAS No	Chemical name	BCF	Species	Source	
7705-08-0	Iron(III) chloride	2756-9622			

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.



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12.7. Other adverse effects

No information available.

Further information

Avoid release to the environment. Do not allow uncontrolled discharge of product into the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation. Do not allow to enter into surface water or drains. Consult the local waste disposal expert about waste disposal.

List of Wastes Code - residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

List of Wastes Code - used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled. Non-contaminated packages may be recycled.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:14.2. UN proper shipping name:14.3. Transport hazard class(es):14.4. Packing group:

Inland waterways transport (ADN)

14.1. UN number or ID number: 14.2. UN proper shipping name:

14.3. Transport hazard class(es): 14.4. Packing group:

Marine transport (IMDG)

14.1. UN number or ID number: 14.2. UN proper shipping name: 14.3. Transport hazard class(es): 14.4. Packing group:

Air transport (ICAO-TI/IATA-DGR)

<u>14.1. UN number or ID number:</u> 14.2. UN proper shipping name:

14.3. Transport hazard class(es):

14.4. Packing group:

14.5. Environmental hazards

No dangerous good in sense of this transport regulation. No dangerous good in sense of this transport regulation. No dangerous good in sense of this transport regulation. No dangerous good in sense of this transport regulation.

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ENVIRONMENTALLY HAZARDOUS:	No	
14.6. Special precautions for user		
No information available.		
14.7. Maritime transport in bulk according to	o IMO instruments	
No information available.		
SECTION 15: Regulatory information		
15.1. Safety, health and environmental regu	lations/legislation specific for the substance or mixture	
EU regulatory information		
Restrictions on use (REACH, annex XVII):		
Entry 3		
Information according to 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)	
National regulatory information		
Employment restrictions:	Observe restrictions to employment for juveniles according work protection guideline' (94/33/EC).	to the 'juvenile
Water hazard class (D):	non-hazardous to water	
15.2. Chemical safety assessment		
For the following substances of this mi	xture a chemical safety assessment has been carried out:	

SECTION 16: Other information

Iron(III) chloride

Changes

This data sheet contains changes from the previous version in section(s): 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16. Rev. 2,0, 02.08.23; Individual safety data sheet based on 10174 collect

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA) ICAO: International Civil Aviation Organization ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO) GHS: Globally Harmonized System of Classification and Labelling of Chemicals OSHA: Occupational Safety and Health Administration LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent NOAEL: No observed adverse effect level LOAEL: Lowest observed adverse effect level NOAEC: No observed adverse effect level LOAEC: Lowest observed adverse effect concentration DNEL: Derived No Effect Level PNEC: predicted no effect concentration **TSCA: Toxic Substances Control Act** IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER NTP: National Toxicology Program



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SARA: Superfund Amendments and Reauthorization Act GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany) PBT: Persistent bioaccumulative toxic SVHC: substance of very high concern CLP: Classification, labelling and Packaging REACH: Registration, Evaluation and Authorization of Chemicals GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals **UN: United Nations** CAS: Chemical Abstracts Service DNEL: Derived No Effect Level DMEL: Derived Minimal Effect Level PNEC: Predicted No Effect Concentration ATE: Acute toxicity estimate LL50: Lethal loading, 50% EL50: Effect loading, 50% EC50: Effective Concentration 50% ErC50: Effective Concentration 50%, growth rate NOEC: No Observed Effect Concentration BCF: Bio-concentration factor PBT: persistent, bioaccumulative, toxic vPvB: very persistent, very bioaccumulative ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) RID: Regulations concerning the international carriage of dangerous goods by rail ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures) EmS: Emergency Schedules MFAG: Medical First Aid Guide MARPOL: International Convention for the Prevention of Marine Pollution from Ships IBC: Intermediate Bulk Container For abbreviations and acronyms, see table at http://abbrev.esdscom.eu For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations). Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Skin Corr. 1; H314	On basis of test data
Eye Dam. 1; H318	On basis of test data

Relevant H and EUH statements (number and full text)

Harmful if swallowed.
Causes severe skin burns and eye damage.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.
Contains Iron(III) chloride. May produce an allergic reaction.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations to existing laws and regulations. The receiver of our product is singularly responsible for adhering to existing laws and regulations. The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products.



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In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)