

Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)

YOKOGAWA

Part No: K9024ED

Rev.1.01

Revision date: 8th March 2023

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

1.1 Product identifier : Reagent for ammonium iron sulfate solution

Substance name : Ammonium Iron(II) Sulfate Hexahydrate
/ Ammonium Iron(III) Sulfate 12-Water

CAS No. : 7783-85-9 / 7783-83-7

EC No. : 616-518-0 / 616-517-5

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

Used for checking ORP sensor

1.3 Details of the supplier of the safety data sheet:

Manufacture:

Name Yokogawa Electric Corporation
Address 2-9-32 Nakacho, Musashino-shi, Tokyo, 180-8750 Japan
Telephone +81-422-52-5649
Website <http://www.yokogawa.com>

Importer (only in Europe):

Name Yokogawa Europe B.V. (Regional Headquarters in EU)
Address Euroweg 2 , 3825 HD Amersfoort, The Netherlands
Postal Address P.O. Box 163, 3800 AD Amersfoort, The Netherlands
Phone +31-(0)88-4641000
Website www.yokogawa.com/eu
E-Mail info@nl.yokogawa.com

1.4 Emergency telephone number (only in Europe):

+31-88-4641000

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture:

Hazard Class and Category Code(s): according to Regulation (EC) No 1272/2008 [CLP]

Skin irritation, category 2

Eye irritation, category 2

Specific target organ systemic toxicity – single exposure, category 3

Hazard Class and Category Code(s): according to JIS Z 7252: 2014 (Japanese standard)

Eye irritation, category 2B

2.2 Label elements

2.2.1 Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]

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Substance name : Ammonium Iron(II) Sulfate Hexahydrate
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CAS No. : 7783-85-9 / 7783-83-7

EC No. : 616-518-0/ 616-517-5

Hazard pictograms :



Signal word : Warning

Hazard statements : Causes skin irritation. (H315)
Causes serious eye irritation. (H319)
May cause respiratory irritation. (H335)

Precautionary statements :

Wash hands thoroughly after handling. (P264)
Wear protective gloves and eye protection. (P280)
IF ON SKIN: Wash with plenty of soap and water. (P302+P352)
If skin irritation occurs: Get medical advice. (P332+P313)
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
(P305+P351+P338)
If eye irritation persists: Get medical advice. (P337+P313)

Supplemental Hazard information (EU) : Not applicable.

2.2.2 Labelling according to JIS Z 7252: 2014 and JIS Z 7253: 2012 (Japanese standard)

Product identifier : Reagent for ammonium iron sulfate solution

Hazard pictograms : Not classified

Signal word : Warning

Hazard statements : Causes eye irritation

Precautionary statements : Wash hands thoroughly after handling.
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do.
Continue rinsing.
If eye irritation persists: Get medical advice.

2.3 Other hazards

Not applicable

SECTION 3: Composition/information on ingredients

3.1 Substances

3.1.1 Ammonium Iron(II) Sulfate Hexahydrate

Substance name : Ammonium Iron(II) Sulfate Hexahydrate

INDEX No : N/A

EC No : 616-518-0

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REACH Registration No : N/A
CAS No : 7783-85-9
Purity : Approx. 98%
Synonymes : Ammonium ferrous sulfate hexahydrate
Stabiliser : not available
Hazard impurities : not available
Classification according Regulation (EC) No. 1272/2008 : Skin Irrit. 2 H315
Eye Irrit. 2 H319
STOT SE 3 H335

3.1.2 Ammonium Iron(III) Sulfate 12-Water

Substance name : Ammonium Iron(III) Sulfate 12-Water
INDEX No : N/A
EC No : 616-517-5
REACH Registration No : N/A
CAS No : 7783-83-7
Purity : Approx. 98%
Synonymes : Ammonium iron bis(sulphate)
Stabiliser : not available
Hazard impurities : not available
Classification according Regulation (EC) No. 1272/2008 : Skin Irrit. 2 H315
Eye Irrit. 2 H319

SECTION 4: First aid measures

4.1 Description of first aid measures

General information : No information available.
Following inhalation : Remove to fresh air.
Following skin contact : Wash with water. If skin irritation occurs, consult doctor.
Following eye contact : Rinse opened eye for several minutes under running water.
If eye irritation persists, consult doctor.
Following ingestion : Rinse out mouth and then drink plenty of water.
In case of persistent symptoms consult doctor.

4.2 Most important symptoms and effects, both acute and delayed

No special information available

4.3 Indication of any immediate medical attention and special treatment needed

No special information available

SECTION 5: Firefighting measures

5.1 Extinguishing media:

Suitable extinguishing media : This product is non-combustible

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Unsuitable extinguishing media : No information available

5.2 Special hazards arising from the substance or mixture

No information available

5.3 Advice for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes. If necessary, wear proper protective equipment.
Keep away personnel except for authorized ones from spillage area by stretching ropes.

6.2 Environmental precautions:

Be careful not discharged to surface or ground water.

6.3 Methods and material for containment and cleaning up

For containment : Put in suitable, closed containers or plastic bags for disposal.

For cleaning up : Pick up the materials and wash the spill site with water.

6.4 Reference to other sections

For disposal refer to section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures : If necessary, wear proper protective equipment not to contact with skin or inhale the dust.

Advice on general occupational hygiene : Not to eat, drink and smoke in work areas.

7.2 Conditions for safe storage, including any incompatibilities

Further information on storage conditions:

Keep in cool and dried place, away from direct sunlight.

7.3 Specific end uses

Refer to section 1.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

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SCGIH(2009): 1mg/m³ (as Iron salt soluble) (TLV-TWA)

8.2 Exposure controls

No special measures required.

Personal protective equipment:

Eye / Face protection : Safety glasses recommended.

Skin protection : Protective gloves impervious to water recommended.

Respiratory protection : If necessary, wear dust mask.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Crystalline powder
Colour : Ammonium Iron(II) Sulfate Hexahydrate Pale bluish green
Ammonium Iron(III) Sulfate 12-Water Pale violet

Odour : Odourless

pH : Ammonium Iron(II) Sulfate Hexahydrate 3~5 (5% aqueous solution)
Ammonium Iron(III) Sulfate 12-Water 2.5 (3% aqueous solution)

Melting point / freezing point : No data available

Initial boiling point /boiling range : No data available

Flash point : No data available(nonflammable)

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Upper/lower flammability or explosive limits

Upper : No data available

Lower : No data available

Vapour pressure : No data available

Vapour density : No data available

Relative density : Ammonium Iron(II) Sulfate Hexahydrate 1.86
Ammonium Iron(III) Sulfate 12-Water 1.72

Solubility : water; easily soluble
Ethanol; Insoluble

Partition coefficient(n-octanol/water) : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity : No data available

Explosive properties : No data available

Oxidising properties : No data available

9.2 Other information:

Physical hazards: No data available

(Reference information, ORP: approx.450~550mV if dissolved in water)

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SECTION 10: Stability and reactivity

- 10.1 Reactivity** : May react with strong oxidizing substances.
- 10.2 Chemical stability** : Stable under recommended storage conditions. Refer to section 7.
- 10.3 Possibility of hazardous reactions:** No data available
- 10.4 Conditions to avoid** : High temperature, direct sunlight, high humidity
- 10.5 Incompatible materials** : Strong oxidizing substances
- 10.6 Hazardous decomposition products** : Nitrogen oxide, sulfur oxide.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

- (a) acute toxicity ; ATE (oral) No data available
ATE (dermal) No data available
ATE (Inhalation) No data available

(Information of Ammonium Iron(II) Sulfate Hexahydrate)
Oral LD50= 3250mg/kg(RAT)

- (b) skin corrosion/irritation ; Causes skin irritation (category 2)
This product causes irritation to the skin.
- (c) serious eye damage/irritation ; Causes eye irritation (category 2)
This product causes irritation to the eye.
- (d) respiratory or skin sensitization ; No data available
- (e) germ cell mutagenicity ; No data available
- (f) carcinogenicity ; No data available
- (g) reproductive toxicity ; No data available
- (h) STOT-single exposure ; May cause respiratory irritation (category 3)
Water soluble iron salts cause respiratory irritation.
- (i) STOT-repeated exposure ; No data available
- (j) aspiration hazard ; No data available

11.2 Other information

When used and handled according to specifications, the product does not have any harmful effects.

SECTION 12: Ecological information

12.1 Toxicity:

Aquatic toxicity: No information available.

- 12.2 Persistence and degradability** : No information available.

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12.3 Bioaccumulative potential : No information available.

12.4 Mobility in soil : No information available.

12.5 Results of PBT and vPvB assessment : Not applicable.

12.6 Other adverse effects:

No ecological problems are to be expected when the product is handled and used with due care and attention.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product / Packaging disposal:

Dissolve the chemical in a large amount of water and form iron hydroxide precipitation by addition of calcium hydroxide solution or sodium carbonate solution and filter the precipitation.

We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose the special waste.

Empty container can be treated like household refuse.

Waste codes / waste designations according to EWC:

16 03 03 / inorganic wastes containing hazardous substances

SECTION 14: Transport information

Non-hazardous material. Not subject to transport regulations.

	Land transport (ADR/RID)	Inland waterway transport (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1 UN No.	-	-	-	-
14.2 UN Proper shipping name	Non-hazardous material	Non-hazardous material	Non-hazardous material	Non-hazardous material
14.3 Transport hazard class(es)	-	-	-	-
Hazard label(s)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	Not applicable	Not applicable	Not applicable	Not applicable

14.6 Special precautions for user

Not applicable

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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 Safety, health and environmental regulations/legislation specific for the substance or mixture

This product is classified in Skin irritation category 2, Eye irritation category 2 and Specific target organ systemic toxicity – single exposure category 3 according to regulation EC 1272/ 2008 [CLP].

15.2 Chemical Safety Assessment:

For this product a chemical safety assessment is not required.

SECTION 16: Other information

16.1 Indication of changes

Issued on 22th June 2017 (Rev.1.00)

Revised on 8th March 2023 (Rev.1.01):

Deleting a department name in Section 1.3

Changing Telephone number in Section 1.3

16.2 Abbreviations and acronyms:

ORP: Oxidation-Reduction Potential

16.3 Key literature references and sources for data

Summary of Classification and Labelling in the ECHA classification and labelling inventory

SDS provided by Kanto Chemical Co, Inc.

No.16031 Ammonium Iron(II) Sulfate Hexahydrate

No.16016 Ammonium Iron(III) Sulfate 12-Water

SDS provided by Wako Pure Chemical Industries, Ltd.

W01W0109-0085 JGHEEN Ammonium Iron(II) Sulfate Hexahydrate (Version 4.01)

W01W0109-0083 JGHEEN Ammonium Iron(III) Sulfate 12-Water (Version 4.01)

16.4 Further information:

The information provided in this Safety Data Sheet is based on the present state of knowledge and is believed to be correct. Its purpose is to characterize the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.