



SAFETY DATA SHEET

In compliance with EC Regulations No.: 1907/2006, 830/2015 and 1272/2008 (CLP).

Date last modified: 29 November 2019 - version 6.0

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

1.1 Product Identifier

Product Name: MARICHEM S-Fe

Product Code #: 673007 (30 lt)

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

Intended Use: Industrial applications; Sea Water Treatment.

Uses advised against: This product is not recommended for any industrial, professional or consumer use other than the Intended Uses above and the instructions written in this Safety Data Sheet.

1.3 Details of the supplier of the safety data sheet

Company/undertaking identification

Supplier/Manufacturer:

Marichem Marigases Hellas SA

Sfaktirias 64,

185 45 Piraeus,

Greece

Tel. No.: ++30 210 4148800

Fax No.: ++30 210 4133985

<http://www.marichem-marigases.com>

e-mail: mail@marichem-marigases.com

1.4 Emergency telephone number

Tel. No.: ++30 210 4148800 (including working hours)

Emergency Information:

Inside U.S. and Canada: (800)-424-9300 (CHEMTREC)

Outside U.S. and Canada: 1-703-527-3887 (CHEMTREC)

National Emergency Centre (Greece): ++30 210 7793777

2. HAZARDS IDENTIFICATION

2.1 Classification of the mixture

Classification under EC 1272/2008 regulation - GHS classification.

No need for classification according to GHS criteria for this product.

2.2 Label Elements

Labelling according to Regulation (EC) No. 1272/2008.

The substance is classified and labelled according to the CLP Regulation.

The product does not require a hazard warning label in accordance with GHS criteria.

Product classification and labelling according to Directive 67/548/EEC, European Dangerous Preparations Directive (1999/45/EC), European Regulation 648/2004 and their amendments.

The preparation is not classified as dangerous according to Directive 1999/45/EC and its amendments.

No special labeling information required according to EU directives.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Chemical Composition:

Ingredients	CAS Number	Proportion	Hazard Code(s) *
Ferrous Sulphate	7720-78-7	10% - 75%	-
Ingredients that do not contribute to the classification of the product	-	25% - 90%	-

*See section 16 for the full text of the Hazard Code(s) declared above.

Occupational Exposure Limits, if available, are listed in section 8.

4. FIRST AID MEASURES

4.1. Description of first aid measures

Remove contaminated clothing.

If inhaled:

If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

On skin contact:

Wash thoroughly with soap and water.

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:

Rinse mouth immediately and then drink plenty of water, seek medical attention.

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

Symptoms: No significant symptoms are expected due to the non-classification of the product.

Hazards: No hazard is expected under intended use and appropriate handling.

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

Treatment: Treat according to symptoms (decontamination, vital functions) - no known specific antidote.

5. FIRE-FIGHTING MEASURES**5.1. Extinguishing media**

Suitable extinguishing media:

water spray, dry powder, foam, carbon dioxide

5.2. Special hazards arising from the substance or mixture

The product is combustible. Cool endangered containers with water-spray.

5.3. Advice for fire-fighters

Special protective equipment:

Wear a self-contained breathing apparatus.

Further information:

Contaminated extinguishing water must be disposed of in accordance with official regulations. Keep containers cool by spraying with water if exposed to fire. Foam should be applied in large quantities as it is broken down to some extent by the product.

6. ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Handle in accordance with good industrial hygiene and safety practice.

6.2. Environmental precautions

Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up

For large amounts: Pump off product.

For residues: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr). Dispose of absorbed material in accordance with regulations.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Ensure thorough ventilation of stores and work areas. Prevent contact with air/oxygen (formation of peroxide).

Protection against fire and explosion:

Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Containers should be stored tightly sealed in a dry place.

7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Name of Substance: Ferrous Sulphate

Components with limit values that require monitoring at the workplace:

Name of Substance: Ferrous Sulphate

Adverse effects of Ferrous Sulfate are those of iron compounds in General.

Exposure standard for iron salts as Fe:

OSHA PEL: TWA 1 mg/m³

Threshold Limit Values:

8 hr Time Weighted Average (TWA): 1 mg/m³/Iron salts, soluble, as Fe

8.2. Exposure controls

Personal protective equipment.

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Hand protection:

Chemical resistant protective gloves (EN 374)

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):

butyl rubber (butyl) - 0.7 mm coating thickness

Manufacturer's directions for use should be observed because of great diversity of types.

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in

practice may be much shorter than the permeation time determined through testing.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES
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9.1. Information on basic physical and chemical properties

9.1.1. Appearance

Physical State:	Liquid
Color:	Clear brown
Odor:	Odorless

9.1.2. Basic data

Boiling Point Range:	>100°C at 20°C
Melting Point Range:	0°C at 20°C
Solubility in water:	Complete
Flash Point:	None
Autoignition Temperature:	Not Available
Lower Explosion Limit (vol %):	Not Available
Upper Explosion Limit (vol %):	Not Available
Vapour Pressure:	Not Available
Relative vapor density (air=1):	Not Available
Specific Gravity (gr/cm³):	1.12 at 15°C
pH value (1% solution):	3.0 - 4.0

9.2 Other Information:

No further relevant information available.

10. STABILITY AND REACTIVITY

10.1. Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals: No corrosive effect on metal.

Formation of flammable gases:

Remarks: Forms no flammable gases in the presence of water.

10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions

Reacts with strong oxidizing agents.

10.4. Conditions to avoid

No special precautions other than good housekeeping of chemicals.

10.5. Incompatible materials

Incompatible with alkalis, sol carbonates, silver salts, lead, lime water, potassium iodide, potassium and sodium tartrate, sodium borate, tannin, vegetable astringent infusions and decoctions.

10.6. Hazardous decomposition products

Undefined Organics as Oxides of Carbon and Sodium which may be toxic. But no decomposition may occur if handled and stored at normal conditions and as prescribed/indicated.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects may arise if the product is mishandled and overexposure occurs.

Name of Substance: Ferrous Sulphate

Ingestion

Swallowing can result in nausea, vomiting, diarrhoea, and gastrointestinal irritation. Symptoms of swallowing large amounts of soluble iron compounds may be delayed several hours and can include epigastric pain, vomiting blood and circulatory failure.

Eye contact

May cause eye irritation.

Skin contact

May cause skin irritation.

Inhalation

Not possible to occur.

Acute toxicity

Oral LD50 (rat): 319 mg/kg.

Respiratory or skin sensitisation

The product has not been tested; the classification is based on the components of the mixture.

Chronic effects

Evidence indicates that repeated or prolonged exposure to this chemical could result in effects on the liver.

Mutagenicity

No information available.

Carcinogenicity

No information available.

Reproductive toxicity

No information available.

Specific Target Organ Toxicity (STOT) - single exposure

No information available.

Specific Target Organ Toxicity (STOT) - repeated exposure

No information available.

Aspiration hazard

No information available.

12. ECOLOGICAL INFORMATION

Name of Substance: Ferrous Sulphate**12.1 Toxicity**

LC50 Shrimp 56 ppm /48 hr/ salt water /Conditions of bioassay not specified.

12.2 Persistence and degradability

No specific data available. The substance is not toxic to aquatic organisms. Prevent contamination of soil and water. Prevent from spreading or entering into drains.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

Assessment transport between environmental compartments: No data available.

12.5 Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Self

classification.

12.6 Other adverse effects

The product is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Must be disposed of or incinerated in accordance with local regulations.

Contaminated packaging:

Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

14. TRANSPORT INFORMATION

14.1 Not classified as dangerous material for the transportation according to ADR/RID, IMDG, ICAO/IATA and US DOT transportation codes.

15. REGULATORY INFORMATION

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

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

15.2 Chemical Safety Assessment

A CSA has been carried out for the raw materials in this product, from the raw materials manufacturers (when needed to be carried out).

16. OTHER INFORMATION

16.1 Full text of Hazard Code(s) referred in Section 3

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16.2 Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road).

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.

ICAO: International Civil Aviation Organization.

bw: Body weight.

Carc.: Carcinogenicity.
CAS number: Chemical Abstracts Service number.
CLP: Classification Labelling Packaging Regulation.
CSA: Chemical Safety Assessment.
CSR: Chemical Safety Report.
DNEL: Derived No Effect Level.
dw: Dry weight.
EC number: EINECS and ELINCS number.
EC: European Commission.
EC50: Half maximal effective concentration.
EINECS: European Inventory of Existing Commercial Chemical Substances.
ELINCS: European List of Notified Chemical Substances.
EmS: Emergency Schedule.
ERC: Environmental Release Category.
ES: Exposure scenario.
food: oral feed.
GHS: Globally Harmonized System of Classification and Labelling of Chemicals.
Irrit.: Irritation.
LC50: Lethal concentration, 50 %.
LD50: Median Lethal dose.
LOAEC: Lowest Observed Adverse Effect Concentration.
LOAEL: Lowest Observed Adverse Effect Level.
MK value: Maximum Concentration value.
NCO: An international corporation that provides customer service contracting.
NOAEC: No Observed Adverse Effect Concentration.
NOAEL: No Observed Adverse Effect Level.
NOEC: No Observed Effect Concentration.
OECD: Organisation for Economic Cooperation and Development.
PBT: Persistent, Bioaccumulative and Toxic.
PNEC: Predicted No Effect Concentration.
PROC: Process category.
REACH: The Registration, Evaluation, Authorisation and Restriction of Chemicals.
Resp.: Respiratory.
Sens.: Sensitization.
STEL value: Short Term Exposure Limit value.
STOT RE: Specific target organ toxicity — repeated exposure.
STOT SE: Specific target organ toxicity — single exposure.
STOT: Specific Target Organ Toxicity.
STP: Sewage Treatment Plant.
SU: Sector of use.
Tox.: Toxicity.
TWA value: Time Weighted Average value.
vPvB: Very Persistent and Very Bioaccumulative.

16.2 Notice to reader

All information, instructions and statements contained in this Material Safety Data Sheet are compiled in accordance with European Directives, corresponding national legislation and on the basis of information given by our suppliers.

The information disclosed in this Material Safety Data Sheet (which supersedes all previous versions) is believed to be correct, at the date of issue, to the best of our current knowledge and experience. It only relates to the specific product designated herein and it may not be valid when said product is used in combination with any other products or in any processed form, unless specified in the text. This document aims to provide the necessary health and safety information of the product and is not to be considered a warranty or quality specification. It is the responsibility of the recipient

of this Material Safety Data Sheet to ensure that information given here is read and understood by all who use, handle, dispose of or in any way come in contact with the product. Also, it is the responsibility of the user to comply with local legislation relating to safety, health, environment and waste management. Data and information provided concerning the product are informative, exclusively presented to the customer.