

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/23/2014

Reviewed on 05/30/2007

1 Identification**Product identifier****Product name:** Iron(II) perchlorate**Stock number:** 11646**CAS Number:**
335159-18-7**EC number:**
237-704-4**Relevant identified uses of the substance or mixture and uses advised against.****Identified use:** SU24 Scientific research and development**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**Alfa Aesar, A Johnson Matthey Company
Johnson Matthey Catalog Company, Inc.
30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

Information Department: Health, Safety and Environmental Department**Emergency telephone number:**

During normal hours the Health, Safety and Environmental Department at (800) 343-0660. After normal hours call Carechem 24 at (866) 928-0789.

2 Hazard(s) identification**Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

GHS03 Flame over circle

Ox. Sol. 2 H272 May intensify fire; oxidizer.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.



O; Oxidizing

R8: Contact with combustible material may cause fire.

Information concerning particular hazards for human and environment: Not applicable**Hazards not otherwise classified:** No information known.**Label elements****Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labeled according to the CLP regulation.

Hazard pictograms

GHS03



GHS07

Signal word: Danger**Hazard statements**

H272 May intensify fire; oxidizer.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statements

P221 Take any precaution to avoid mixing with combustibles.

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P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P302+P352 IF ON SKIN: Wash with plenty of water/...
 P405 Store locked up.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

C - Oxidizing materials

D2B - Toxic material causing other toxic effects

**Classification system****HMIS ratings (scale 0-4)****(Hazardous Materials Identification System)**

HEALTH	1
FIRE	0
REACTIVITY	3

Health (acute effects) = 1

Flammability = 0

Physical Hazard = 3

Other hazards**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**3 Composition/information on ingredients****Chemical characterization: Substances****CAS# Description:**

335159-18-7 Iron(II) perchlorate

Identification number(s):**EC number:** 237-704-4**4 First-aid measures****Description of first aid measures****After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek medical treatment.**Information for doctor****Most important symptoms and effects, both acute and delayed**

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures**Extinguishing media****Suitable extinguishing agents**CO₂, extinguishing powder or water spray. Fight larger fires with water spray.**Special hazards arising from the substance or mixture**

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

If this product is involved in a fire, the following can be released:

Advice for firefighters**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

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6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions:

Do not allow material to be released to the environment without proper governmental permits.

Do not allow product to reach sewage system or any water course.

Do not allow to penetrate the ground/soil.

Methods and material for containment and cleaning up: Ensure adequate ventilation.**Prevention of secondary hazards:**

Acts as an oxidizing agent on organic materials such as wood, paper and fats

Keep away from combustible material.

Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage**Handling****Precautions for safe handling**

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

Substance/product can reduce the ignition temperature of flammable substances.

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

Conditions for safe storage, including any incompatibilities**Storage****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:**

Store away from flammable substances.

Store away from reducing agents.

Do not store with organic materials.

Store away from metal powders.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Specific end use(s) No further relevant information available.**8 Exposure controls/personal protection****Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters**Components with limit values that require monitoring at the workplace:**

Iron salts, soluble (as Fe)

mg/m3

ACGIH TLV 1

Finland TWA 1

Korea TLV 1

Norway TWA 1

Switzerland MAK-W 1

United Kingdom LTEL 1; 2-STEL

Additional information: No data**Exposure controls****Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

Breathing equipment: Use suitable respirator when high concentrations are present.**Protection of hands:**

Impervious gloves

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Check protective gloves prior to each use for their proper condition.
The selection of suitable gloves not only depends on the material, but also on quality.
Quality will vary from manufacturer to manufacturer.

Eye protection: Safety glasses**Body protection:** Protective work clothing.**9 Physical and chemical properties****Information on basic physical and chemical properties****General Information****Appearance:**

Form:	Wet crystalline aggregates
Color:	Green
Odor:	Odorless
Odor threshold:	Not determined.

pH-value:	Not applicable.
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Change in condition

Melting point/Melting range:	>100 °C (>212 °F) (dec)
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined

Flash point:	Not applicable
Flammability (solid, gaseous)	Contact with combustible material may cause fire.
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Auto igniting:	Not determined.

Danger of explosion:	Not determined.
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Explosion limits:

Lower:	Not determined
Upper:	Not determined

Vapor pressure:	Not applicable.
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Density:	Not determined
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Relative density	Not determined.
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Vapor density	Not applicable.
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Evaporation rate	Not applicable.
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Solubility in / Miscibility with

Water:	Soluble
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Partition coefficient (n-octanol/water):	Not determined.
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Viscosity:

dynamic:	Not applicable.
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kinematic:	Not applicable.
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Other information	No further relevant information available.
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10 Stability and reactivity**Reactivity** May intensify fire; oxidizer.**Chemical stability** Stable under recommended storage conditions.**Thermal decomposition / conditions to be avoided:**

Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions

Reacts with reducing agents

Reacts with flammable substances

Incompatible materials:

Sulfur

Magnesium

Alcohols

Flammable substances

Reducing agents

Organic materials

Metal powders

Hazardous decomposition products:

Hydrogen chloride (HCl)

Phosgene

11 Toxicological information**Information on toxicological effects****Acute toxicity:** No effects known.

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LD/LC50 values that are relevant for classification: No data**Skin irritation or corrosion:** Causes skin irritation.**Eye irritation or corrosion:** Causes serious eye irritation.**Sensitization:** No sensitizing effects known.**Germ cell mutagenicity:** No effects known.**Carcinogenicity:**

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

Reproductive toxicity: No effects known.**Specific target organ system toxicity - repeated exposure:** No effects known.**Specific target organ system toxicity - single exposure:** May cause respiratory irritation.**Aspiration hazard:** No effects known.**Subacute to chronic toxicity:**

Perchlorates are irritating to the skin and mucous membranes.

Iron compounds may cause vomiting, diarrhea, pink urine, black stool, and liver damage. May cause damage to the kidneys. Irritating to the respiratory tract, they may cause pulmonary fibrosis if dusts are inhaled.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

12 Ecological information**Toxicity****Aquatic toxicity:** No further relevant information available.**Persistence and degradability** No further relevant information available.**Behavior in environmental systems:****Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.**Additional ecological information:****General notes:**

Do not allow material to be released to the environment without proper governmental permits. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Avoid transfer into the environment.

Results of PBT and vPvB assessment**PBT:** Not applicable.**vPvB:** Not applicable.**Other adverse effects** No further relevant information available.**13 Disposal considerations****Waste treatment methods****Recommendation** Consult state, local or national regulations to ensure proper disposal.**Uncleaned packagings:****Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agent:** Water, if necessary with cleansing agents.**14 Transport information****UN-Number****DOT, ADR, IMDG, IATA**

UN1481

UN proper shipping name**DOT**

Perchlorates, inorganic, n.o.s. (iron(II) perchlorate)

ADR

1481 Perchlorates, inorganic, n.o.s. (iron(II) perchlorate)

IMDG, IATA

PERCHLORATES, INORGANIC, N.O.S. (iron(II) perchlorate)

Transport hazard class(es)**DOT****Class**

5.1 Oxidising substances.

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Label 5.1
ADR



Class 5.1 (O2) Oxidizing substances
Label 5.1
IMDG, IATA



Class 5.1 Oxidising substances.
Label 5.1

Packing group
DOT, ADR, IMDG, IATA II

Environmental hazards: Not applicable.

Special precautions for user Warning: Oxidizing substances
Danger code (Kemler): 50
Segregation groups Perchlorates

Transport in bulk according to Annex II of
MARPOL73/78 and the IBC Code Not applicable.

Transport/Additional information:

DOT
Marine Pollutant (DOT): No

UN "Model Regulation": UN1481, Perchlorates, inorganic, n.o.s. (iron(II) perchlorate), 5.1, II

15 Regulatory information

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

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Non-Domestic Substances List (NDSL).

SARA Section 313 (specific toxic chemical listings) Substance is not listed.

California Proposition 65

Prop 65 - Chemicals known to cause cancer Substance is not listed.

Prop 65 - Developmental toxicity Substance is not listed.

Prop 65 - Developmental toxicity, female Substance is not listed.

Prop 65 - Developmental toxicity, male Substance is not listed.

Information about limitation of use: For use only by technically qualified individuals.

Other regulations, limitations and prohibitive regulations

Substances of very high concern (SVHC) according to REACH, Article 57

Substance is not listed.

REACH - Pre-registered substances Substance is not listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Health, Safety and Environmental Department.

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)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

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IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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