

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 5.1 Revision Date 07.08.2014

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Manganese

Product Number : 463728

Brand : Aldrich

REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

CAS-No. : 7439-96-5

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

Identified uses : Laboratory chemicals, Manufacture of substances

**1.3 Details of the supplier of the safety data sheet**

Company : Sigma-Aldrich Israel Ltd.  
3 PARK RABIN, PLAUT  
7670603 REHOVOT  
ISRAEL

Telephone : +972 8948-4222

Fax : +972 8948-4200

**1.4 Emergency telephone number**

Emergency Phone # : +972 (8) 948-4222

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Substances, which in contact with water, emit flammable gases (Category 1), H260

For the full text of the H-Statements mentioned in this Section, see Section 16.

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

F Highly flammable R11, R15

For the full text of the R-phrases mentioned in this Section, see Section 16.

**2.2 Label elements****Labelling according Regulation (EC) No 1272/2008**

Pictogram



Signal word

Danger

Hazard statement(s)

H260

In contact with water releases flammable gases which may ignite spontaneously.

Precautionary statement(s)

P223

Keep away from any possible contact with water, because of violent

P231 + P232	reaction and possible flash fire.
P370 + P378	Handle under inert gas. Protect from moisture. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P422	Store contents under inert gas.
Supplemental Hazard Statements	none

### 2.3 Other hazards - none

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Formula	:	Mn
Molecular Weight	:	54,94 g/mol
CAS-No.	:	7439-96-5
EC-No.	:	231-105-1

No components need to be disclosed according to the applicable regulations.

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

no data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Dry powder Carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

Water

### 5.2 Special hazards arising from the substance or mixture

no data available

### 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### 5.4 Further information

no data available

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.  
For personal protection see section 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Do not flush with water. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.  
Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition  
- No smoking.  
For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.  
Never allow product to get in contact with water during storage.

Moisture sensitive.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**Components with workplace control parameters**

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

##### Body Protection

impervious clothing, Flame retardant protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- |   |                                      |
|---|--------------------------------------|
| a) Appearance                                   | Form: powder<br>Colour: grey         |
| b) Odour  | no data available                    |
| c) Odour Threshold                              | no data available                    |
| d) pH   | no data available                    |
| e) Melting point/freezing point                 | Melting point/range: 1.244 °C - lit. |
| f) Initial boiling point and boiling range      | 1.962 °C - lit.                      |
| g) Flash point                                  | not applicable                       |
| h) Evaporation rate                             | no data available                    |
| i) Flammability (solid, gas)                    | no data available                    |
| j) Upper/lower flammability or explosive limits | no data available                    |
| k) Vapour pressure                              | no data available                    |
| l) Vapour density                               | no data available                    |
| m) Relative density                             | 7,3 g/mL at 25 °C                    |
| n) Water solubility                             | no data available                    |
| o) Partition coefficient: n-octanol/water       | no data available                    |
| p) Auto-ignition temperature                    | no data available                    |
| q) Decomposition temperature                    | no data available                    |
| r) Viscosity                                    | no data available                    |
| s) Explosive properties                         | no data available                    |
| t) Oxidizing properties                         | no data available                    |

### 9.2 Other safety information

no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

## 10.2 Chemical stability

Stable under recommended storage conditions.

## 10.3 Possibility of hazardous reactions

Reacts violently with water.

## 10.4 Conditions to avoid

Exposure to moisture.

## 10.5 Incompatible materials

acids, Halogens, Bases, Phosphorus, Sulphur oxides, Peroxides

## 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Manganese/manganese oxides

Other decomposition products - no data available

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - rat - 9.000 mg/kg

#### Skin corrosion/irritation

Skin - rabbit

Result: Mild skin irritation - 24 h

#### Serious eye damage/eye irritation

Eyes - rabbit

Result: Mild eye irritation - 24 h

#### Respiratory or skin sensitisation

no data available

#### Germ cell mutagenicity

no data available

#### Carcinogenicity

Carcinogenicity - rat - Intramuscular

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Tumorigenic: Tumors at site of application.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### Reproductive toxicity

no data available

May cause reproductive disorders.

#### Specific target organ toxicity - single exposure

no data available

#### Specific target organ toxicity - repeated exposure

no data available

#### Aspiration hazard

no data available

#### Additional Information

RTECS: OO9275000

Men exposed to manganese dusts showed a decrease in fertility. Chronic manganese poisoning primarily involves the central nervous system. Early symptoms include languor, sleepiness and weakness in the legs. A stolid mask-like appearance of the face, emotional disturbances such as uncontrollable laughter and a spastic gait with tendency to fall in walking are findings in more advanced cases. High incidence of pneumonia has been found in workers exposed to the dust or fume of some manganese compounds.

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## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 40 mg/l - 48 h

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

no data available

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Other adverse effects

Harmful to aquatic life.

no data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

#### Contaminated packaging

Dispose of as unused product.

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## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: 3208

IMDG: 3208

IATA: 3208

### 14.2 UN proper shipping name

ADR/RID: METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S. (Manganese)

IMDG: METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S. (Manganese)

IATA: Metallic substance, water-reactive, n.o.s. (Manganese)

Passenger Aircraft: Not permitted for transport

### 14.3 Transport hazard class(es)

ADR/RID: 4.3

IMDG: 4.3

IATA: 4.3

### 14.4 Packaging group

ADR/RID: I

IMDG: I

IATA: I

### 14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

### 14.6 Special precautions for user

no data available

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## SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

no data available

## 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

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### SECTION 16: Other information

#### Full text of H-Statements referred to under sections 2 and 3.

H260 In contact with water releases flammable gases which may ignite spontaneously.

#### Full text of R-phrases referred to under sections 2 and 3

R11 Highly flammable.

R15 Contact with water liberates extremely flammable gases.

#### Further information

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