

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 12/19/2007

Reviewed on 01/26/2007

1 Identification of substance:

Product details:

Product name: Manganese pieces

Stock number: 10236

Manufacturer/Supplier:

Alfa Aesar, A Johnson Matthey Company
 Johnson Matthey Catalog Company, Inc.
 30 Bond Street
 Ward Hill, MA 01835-8099
 Emergency Phone: (978) 521-6300
 CHEMTREC: (800) 424-9300
 Web Site: www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency information:

During normal hours the Health, Safety and Environmental Department.
 After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:

Chemical characterization:

Description: (CAS#)

Manganese (CAS# 7439-96-5), 100%

Identification number(s):

EINECS Number: 231-105-1

3 Hazards identification

Hazard description: Not applicable

Information pertaining to particular dangers for man and environment

Not applicable

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH	0
FIRE	0
REACTIVITY	0

Health (acute effects) = 0

Flammability = 0

Reactivity = 0

4 First aid measures

General information No special measures required.

After inhalation Seek medical treatment in case of complaints.

After skin contact Generally the product does not irritate the skin.

After eye contact

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing Seek medical treatment.

5 Fire fighting measures

Suitable extinguishing agents

Product is not flammable. Use fire fighting measures that suit the surrounding fire.

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Product name: Manganese pieces**Protective equipment:** No special measures required.

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6 Accidental release measures**Person-related safety precautions:** Not required.**Measures for environmental protection:**

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

Measures for cleaning/collecting: Pick up mechanically.**Additional information:**

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****Information for safe handling:**

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

No special precautions are necessary if used correctly.

Information about protection against explosions and fires:

No special measures required.

Storage**Requirements to be met by storerooms and receptacles:**

No special requirements.

Information about storage in one common storage facility: Not required.**Further information about storage conditions:** None.**8 Exposure controls and personal protection****Additional information about design of technical systems:**

No further data; see item 7.

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Components with limit values that require monitoring at the workplace:

Manganese, elemental & inorganic compounds (as Mn)

	mg/m3
ACGIH TLV	0.2
Austria MAK	5
Belgium TWA	1; 3-STEL (fume)
Denmark TWA	2.5
Finland TWA	0.5
France VME	1 (fume)
Germany MAK	0.55
Japan OEL	0.3 (respirable dust)
Korea TLV	0.2
Netherlands MAC-TGG	1; 3-MAC-K
Norway TWA	1
Russia	0.2-STEL (fume)
Sweden NGV	1; 2.5-TGV (resp. dust)
	2.5; 5-TGV (total dust)
Switzerland MAK-W	5
	1 (fume)
United Kingdom TWA	5
	1; 3-STEL (fume)
USA PEL	5-Ceiling (fume)

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

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.**Protection of hands:** Not required.**Eye protection:** Safety glasses**Body protection:** Protective work clothing.**9 Physical and chemical properties:**

General Information	
Form:	Solid
Color:	Grey
Odor:	Odorless
Change in condition	
Melting point/Melting range:	1245°C (2273°F)
Boiling point/Boiling range:	2150°C (3902°F)
Sublimation temperature / start:	Not determined
Flash point:	Not applicable
Flammability (solid, gaseous)	Product is not flammable. Fine powder: highly flammable
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Danger of explosion:	Product does not present an explosion hazard.

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Explosion limits:**Lower:** Not determined**Upper:** Not determined**Vapor pressure:** Not determined**Density at 20°C (68°F):** 7.43 g/cm³**Solubility in / Miscibility with
Water:** Insoluble**10 Stability and reactivity****Thermal decomposition / conditions to be avoided:**

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

Materials to be avoided:

Acids

Halogens

Bases

Sulfur

Hydrogen peroxide

Dangerous reactions No dangerous reactions known**Dangerous products of decomposition:** Metal oxide fume**11 Toxicological information****Acute toxicity:****LD/LC50 values that are relevant for classification:**

Oral LD50 9000 mg/kg (rat)

Irritation of skin mild 500 mg/24H (rbt)

Irritation of eyes mild 500 mg/24H (rbt)

Primary irritant effect:**on the skin:** Powder: irritant effect**on the eye:** Powder: irritant effect**Sensitization:** No sensitizing effects known.**Other information (about experimental toxicology):**

Tumorigenic effects have been observed on tests with laboratory animals.

Subacute to chronic toxicity:

Chronic exposure to manganese may cause impairment to the central nervous system. Symptoms include sluggishness, sleepiness, muscle weakness, loss of facial muscle control, edema, emotional disturbances, spastic gait and falling. Chronic manganese poisoning may develop after as little as three months of heavy exposure but usually cases develop after one to three years of exposure,

Additional toxicological information:

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

EPA-D: Not classifiable as to human carcinogenicity: inadequate human and animal evidence of carcinogenicity or no data are available.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for components in this product.

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12 Ecological information:

General notes:

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

13 Disposal considerations

Product:

Recommendation

Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

Not a hazardous material for transportation.

DOT regulations:

Hazard class: None

Land transport ADR/RID (cross-border)

ADR/RID class: None

Maritime transport IMDG:

IMDG Class: None

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: None

Transport/Additional information:

Not dangerous according to the above specifications.

15 Regulations

Product related hazard informations:

Observe the general safety regulations when handling chemicals

National regulations

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

Information about limitation of use:

For use only by technically qualified individuals.

This product contains manganese and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

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.

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Department issuing MSDS: Health, Safety and Environmental Department.

Contact: Paul V. Connolly

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