

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/15/2009

Reviewed on 05/15/2009

1 Identification of substance:**Product details:****Product name:** Manganese (II) tungsten oxide**Stock number:** 39374**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 (II) tungsten oxide (CAS# 14177-46-9): 100%

3 Hazards identification**Hazard description:**

Xn Harmful

Information pertaining to particular dangers for man and environment

R 20/22 Harmful by inhalation and if swallowed.

R 36/37 Irritating to eyes and respiratory system.

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

HEALTH	1
FIRE	0
REACTIVITY	0

Health (acute effects) = 1

Flammability = 0

Reactivity = 0

GHS label elements

Danger

3.1/3 - Toxic if swallowed.

3.1/4 - Harmful if inhaled.

3.3/2A - Causes serious eye irritation.

3.8/3 - May cause respiratory irritation.

Prevention:

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Call a POISON CENTER or doctor/physician if you feel unwell.

Specific treatment (see label).

Rinse mouth.

If eye irritation persists: Get medical advice/attention.

Storage:

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

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Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulations.

4 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 immediate medical advice.

5 Fire fighting measures**Suitable extinguishing agents**

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

Special hazards caused by the material, its products of combustion or resulting gases:

In case of fire, the following can be released:

Metal oxide fume

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures**Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Measures for environmental protection:

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

Measures for cleaning/collecting:

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

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.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires: The product is not flammable

Storage

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: No information known.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

8 Exposure controls and 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.

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

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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-STEEL (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-STEEL (fume)
 USA PEL 5-Ceiling (fume)

Tungsten and compounds (as W)

mg/m3
 ACGIH TLV 5; 10-STEEL (metal)
 1; 3-STEEL (soluble compounds)
 5; 10-STEEL (insoluble compounds)
 Belgium TWA 1 (soluble compounds)
 5; 10-STEEL (insoluble compounds)
 Finland TWA 5 (metal)
 1 (soluble compounds)
 5 (insoluble compounds)
 Netherlands MAC-TGG 5 (metal)
 1 (soluble compounds)
 5 (insoluble compounds)
 Poland TWA 5 (metal)
 1 (soluble compounds)
 5 (insoluble compounds)
 Sweden NGV 5 (metal)
 1 (soluble compounds)
 5 (insoluble compounds)
 United Kingdom TWA 5; 10-STEEL (metal)
 1; 3-STEEL (soluble compounds)
 5; 10-STEEL (insoluble compounds)
 MSHA TWA 1 (soluble compounds)
 5 (insoluble compounds)

Additional information: No data**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.

Avoid contact with the eyes and skin.

Breathing equipment: Use suitable respirator when high concentrations are present.**Protection of hands:** Impervious gloves**Eye protection:** Safety glasses**Body protection:** Protective work clothing.**9 Physical and chemical properties:****General Information**

Form: Powder
Color: Yellow
Odor: Odorless

Change in condition

Melting point/Melting range: Not determined
Boiling point/Boiling range: Not determined
Sublimation temperature / start: Not determined

Flash point: Not applicable**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):	7.234 g/cm ³
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: No information known.**Dangerous reactions** No dangerous reactions known**Dangerous products of decomposition:** Metal oxide fume**11 Toxicological information****Acute toxicity:****Primary irritant effect:****on the skin:** Irritant to skin and mucous membranes.**on the eye:** Irritating effect.**Sensitization:** No sensitizing effects known.**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.

Tungsten compounds may be irritating to the eyes and respiratory tract. Chronic exposure may result in permanent lung damage.

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.

12 Ecological information:**General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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

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Transport/Additional information: Not dangerous according to the above specifications.**15 Regulations****Product related hazard informations:****Hazard symbols:**

Xn Harmful

Risk phrases:

20/22 Harmful by inhalation and if swallowed.

36/37 Irritating to eyes and respiratory system.

Safety phrases:

9 Keep container in a well-ventilated place.

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

36 Wear suitable protective clothing.

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).

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.

Department issuing MSDS: Health, Safety and Environmental Department.**Contact:** Zachariah Holt**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

DOT: US Department of Transportation

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

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