

### MATERIAL SAFETY DATA SHEET (MSDS)

#### SECTION 1: Identification of the substance/mixture and of the company/undertaking

##### 1.1. Product identifier

Product form : Substance  
:  
CAS No : 7439-96-5  
Product code : 4498B

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

###### 1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals, Manufacture of substances

###### 1.2.2. Uses advised against

No additional information available

##### 1.3. Details of the supplier of the safety data sheet

LOBA CHEMIE PVT.LTD.  
107 Wode House Road, Jehangir Villa, Colaba  
400005 Mumbai - INDIA  
T +91 22 6663 6663 - F +91 22 6663 6699  
[info@lobachemie.com](mailto:info@lobachemie.com) - [www.lobachemie.com](http://www.lobachemie.com)

##### 1.4. Emergency telephone number

Emergency number : + 91 22 6663 6663 (9:00am - 6:00 pm)

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable solids, H228  
Category 1  
Substances and Mixtures H260  
which, in contact with  
water, emit flammable  
gases, Category 1

Full text of classification categories and H statements : see section 16

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

F; R11  
F; R15

Full text of R-phrases: see section 16

# MANGANESE (METAL) FLAKES

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### Adverse physicochemical, human health and environmental effects

No additional information available

## 2.2. Label elements

### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H228 - Flammable solid  
H260 - In contact with water releases flammable gases which may ignite spontaneously

Precautionary statements (CLP) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P223 - Do not allow contact with water  
P231+P232 - Handle under inert gas. Protect from moisture  
P240 - Ground/bond container and receiving equipment  
P241 - Use explosion-proof electrical/ventilating/lighting/... equipment  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P335+P334 - Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages  
P370+P378 - In case of fire: Use ... to extinguish  
P402+P404 - Store in a dry place. Store in a closed container  
P501 - Dispose of contents/container to ...

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Name : MANGANESE (METAL) FLAKES

CAS No : 7439-96-5

Full text of R- and H-phrases: see section 16

### 3.2. Mixture

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.

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- First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion : Rinse mouth out with water. If you feel unwell, seek medical advice.

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

No additional information available

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

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : dry chemical powder, alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>).
- Unsuitable extinguishing media : Do not use a heavy water stream.

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

- Fire hazard : Flammable solid.
- Explosion hazard : May form flammable/explosive vapour-air mixture.

### 5.3. Advice for firefighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Wear fire/flame resistant/retardant clothing.

## SECTION 6: Accidental release measures

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

- General measures : Remove ignition sources. Use special care to avoid static electric charges. No naked lights. No smoking.

#### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

- Protective equipment : Use personal protective equipment as required.
- Emergency procedures : Stop release.

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Clear up rapidly by scoop or vacuum.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapours are flammable. Keep away from any possible contact with water, because of violent reaction and possible flash fire.
- Precautions for safe handling : No naked lights. No smoking. Protect from moisture. Handle under inert gas.
- Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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

- Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/... equipment.

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Storage conditions	: Heat sources. Direct sunlight. Keep in fireproof place. Store in a dry place. Protect from moisture.
Incompatible materials	: Keep away from any possible contact with water, because of violent reaction and possible flash fire.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

Hand protection	: protective gloves
Eye protection	: Chemical goggles or safety glasses
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: Wear appropriate mask

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Molecular mass	: 54.94 g/mol
Colour	: Bright silver grey.
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 1260 °C
Freezing point	: No data available
Boiling point	: 1900 °C
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable solid, In contact with water releases flammable gases which may ignite spontaneously
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available

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Density	: 7.3 g/cm <sup>3</sup>
Solubility	: Water: Reacts with water
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Flammable solid. May form flammable/explosive vapour-air mixture.

### 10.3. Possibility of hazardous reactions

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

### 10.4. Conditions to avoid

Open flame. Overheating. Direct sunlight. Heat. Sparks.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

May release flammable gases.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

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Aspiration hazard : Not classified

### SECTION 12: Ecological information

#### 12.1. Toxicity

No additional information available

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

No additional information available

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to ...

Additional information : Handle empty containers with care because residual vapours are flammable.

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

UN-No. (ADR) : 3208

UN-No. (IMDG) : 3208

UN-No.(IATA) : 3208

UN-No.(ADN) : 3208

UN-No. (RID) : 3208

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.

Proper Shipping Name (IMDG) : METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.

Proper Shipping Name (IATA) : METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.

Proper Shipping Name (ADN) : METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S.

Proper Shipping Name (RID) : METALLIC SUBSTANCE, WATER- REACTIVE, N.O.S.

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Transport document description (ADR)	: UN 3208 METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S., 4.3, III, (E)
Transport document description (IMDG)	: UN 3208 METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S., 4.3, III
Transport document description (IATA)	: UN 3208 METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S., 4.3, III
Transport document description (ADN)	: UN 3208 METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S., 4.3, III
Transport document description (RID)	: UN 3208 METALLIC SUBSTANCE, WATER- REACTIVE, N.O.S., 4.3, III

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : 4.3

Danger labels (ADR) : 4.3



#### IMDG

Transport hazard class(es) (IMDG) : 4.3

Danger labels (IMDG) : 4.3



#### IATA

Transport hazard class(es) (IATA) : 4.3

Hazard labels (IATA) : 4.3



#### ADN

Transport hazard class(es) (ADN) : 4.3

Danger labels (ADN) : 4.3



#### RID

Transport hazard class(es) (RID) : 4.3

Danger labels (RID) : 4.3



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### 14.4. Packing group

Packing group (ADR)	: III
Packing group (IMDG)	: III
Packing group (IATA)	: III
Packing group (ADN)	: III
Packing group (RID)	: III

### 14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR)	: W2
Special provision (ADR)	: 274, 557
Limited quantities (ADR)	: 1kg
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P410, IBC08, R001
Special packing provisions (ADR)	: B4
Mixed packing provisions (ADR)	: MP14
Portable tank and bulk container instructions (ADR)	: T1
Portable tank and bulk container special provisions (ADR)	: TP33
Tank code (ADR)	: SGAN
Vehicle for tank carriage	: AT
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V1
Special provisions for carriage - Bulk (ADR)	: VC1, VC2, AP3, AP4, AP5
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV23
Hazard identification number (Kemler No.)	: 423
Orange plates	:



Tunnel restriction code (ADR)	: E
EAC code	: 4W

#### - Transport by sea

Special provision (IMDG)	: 223, 274
Limited quantities (IMDG)	: 1 kg
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P410
Packing provisions (IMDG)	: PP31, PP40
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B4
Tank instructions (IMDG)	: T1
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-G
EmS-No. (Spillage)	: S-N



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Stowage category (IMDG) : E  
Stowage and handling (IMDG) : SW2, H1  
Segregation (IMDG) : SG26  
MFAG-No : 138

### - Air transport

PCA Excepted quantities (IATA) : E1  
PCA Limited quantities (IATA) : Y476  
PCA limited quantity max net quantity (IATA) : 10kg  
PCA packing instructions (IATA) : 485  
PCA max net quantity (IATA) : 25kg  
CAO packing instructions (IATA) : 491  
CAO max net quantity (IATA) : 100kg  
Special provision (IATA) : A3  
ERG code (IATA) : 4W

### - Inland waterway transport

Classification code (ADN) : W2  
Special provisions (ADN) : 274, 557  
Limited quantities (ADN) : 1 kg  
Excepted quantities (ADN) : E1  
Equipment required (ADN) : PP, EX, A  
Ventilation (ADN) : VE01  
Provisions for handling and stowage of the cargo (ADN) : HA08  
Number of blue cones/lights (ADN) : 0

### - Rail transport

Classification code (RID) : W2  
Special provision (RID) : 274, 557  
Limited quantities (RID) : 1kg  
Excepted quantities (RID) : E1  
Packing instructions (RID) : P410, IBC08, R001  
Special packing provisions (RID) : B4  
Mixed packing provisions (RID) : MP14  
Portable tank and bulk container instructions (RID) : T1  
Portable tank and bulk container special provisions (RID) : TP33  
Tank codes for RID tanks (RID) : SGAN  
Transport category (RID) : 3  
Special provisions for carriage – Packages (RID) : W1  
Special provisions for carriage – Bulk (RID) : VC1, VC2, AP3, AP4, AP5  
Special provisions for carriage – Loading and unloading (RID) : CW23  
Colis express (express parcels) (RID) : CE11  
Hazard identification number (RID) : 423

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

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### SECTION 15: Regulatory information

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

##### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

MANGANESE (METAL) FLAKES is not on the REACH Candidate List

MANGANESE (METAL) FLAKES is not on the REACH Annex XIV List

##### 15.1.2. National regulations

###### Germany

AwSV/VwVwS Annex reference : Water hazard class (WGK) nwg, non-hazardous to water (KBwS-Beschluss; WGK No 1443)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

#### 15.2. Chemical safety assessment

No additional information available

### SECTION 16: Other information

Full text of R-, H- and EUH-phrases:

Flam. Sol. 1	Flammable solids, Category 1
Water-react. 1	Substances and Mixtures which, in contact with water, emit flammable gases, Category 1
H228	Flammable solid
H260	In contact with water releases flammable gases which may ignite spontaneously
R11	Highly flammable
R15	Contact with water liberates extremely flammable gases
F	Highly flammable

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*