

PRODUCT SAFETY DATA SHEET for FeMn fume*prepared pursuant to Annex II of the REACH regulation EC 1907/2006 in the valid and effective wording***1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND COMPANY****1.1 Substance/Mixture Identifier**

Substance Name: FeMn fume

Chemical Name: 930-776-4 / Fume from FeMn manufacturing

Synonyms: Fume from FeMn manufacturing

Trade Name: FeMn fume

EINECS: 930-776-4

CAS: -

1.2 Identified Uses of the Substance/Mixture

Identified Uses: Please, see identified uses of the substance as set forth in Annex 1 to the Product Safety Data Sheet

Uses Advised Against: Other uses not included in Annex 1 to the Product Safety Data Sheet.

1.3 Details of the Supplier of Safety Data Sheet

Name: OFZ a. s.

Address: Široká 381, 027 41 Oravský Podzámok, Slovakia

Phone No.: +421/43/5804 111

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E-mail: ofz@ofz.sk

E-mail of person responsible for SDS: matej.siculiak@ofz.sk

1.4 Emergency Telephone Number

European Emergency No.: 112

Emergency Phone No. at the Company: +421/43/5804 111

Available Outside Office Hours: No

2. HAZARDS IDENTIFICATION

2.1 Classification of the Substance

2.1.1 Classification of the Substance According to Regulation CLP / GHS

The substance does not meet the criteria for classification under Regulation EC 1272/2008.

2.2 Label Elements

2.2.1 Labelling According to Regulation CLP / GHS

The substance does not meet the criteria for classification under Regulation EC 1272/2008.

Signal word: None

2.3 Other Hazards

Eyes: May irritate eyes.

Skin: Not absorbed through skin. Long-term exposure may cause irritation.

Ingestion: Not recommended. No known adverse effects.

Inhalation: May cause shortness of breath.

Avoid dust formation. Long-term inhalation of dust can pose a hazard for human health.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Description: UVCB substance, containing metallic oxides, obtained as a by-product in the manufacturing of FeMn.

Degree of purity: 100.0 % (w/w)

3.1 Constituents

Constituent	Typical Concentration	Concentration Range	Remarks
SiO ₂ (silicon oxide) CAS: 7631-86-9 EINECS: 231-545-4	Not applicable (UVCB substance)	0.0 – 20.0 % (w/w)	
CaO (calcium oxide) CAS: 1305-78-8 EINECS: 215-138-9	Not applicable (UVCB substance)	0.0 – 10.0 % (w/w)	
Al ₂ O ₃ (aluminium trioxide) CAS: 1344-28-1 EINECS: 215-691-6	Not applicable (UVCB substance)	0.0 – 10.0 % (w/w)	
Mn (manganese) CAS: 1344-43-0 EINECS: 215-695-8	Not applicable (UVCB substance)	25.0 – 55.0 % (w/w)	
MgO (magnesium oxide) CAS: 1309-48-4	Not applicable (UVCB substance)	0.0 – 10 % (w/w)	

EINECS: 215-171-9			
FeO (iron oxide) CAS: 1345-25-1 EINECS: 215-721-8	Not applicable (UVCB substance)	≤ 5.0 % (w/w)	
K ₂ O (potassium oxide) CAS: 12136-45-7 EINECS: 235-227-6	Not applicable (UVCB substance)	≤ 25.0 % (w/w)	
Na ₂ O (sodium oxide) CAS: 1313-59-3 EINECS: 215-208-9	Not applicable (UVCB substance)	≤ 5.0 % (w/w)	
SO ₃ (sulfur trioxide) CAS: 7446-11-9 EINECS: 231-197-3	Not applicable (UVCB substance)	≤ 5.0 % (w/w)	
Zn (zinc) CAS: 7440-66-6 EINECS: 231-175-3	Not applicable (UVCB substance)	≤ 5.0 % (w/w)	
C (elementary carbon) CAS: 7440-44-0 EINECS: 231-153-3	Not applicable (UVCB substance)	≤ 5.0 % (w/w)	

3.2 Impurities

No impurities relevant for classification and labelling.

4. FIRST-AID MEASURES

4.1 Description of First-aid Measures

General Information: Not anticipated to cause any harm if in contact with clothing, skin, or eye. However, in case of accident or unwellness, immediately seek medical advice.

Inhalation: Mechanical irritation of airways: Remove person from dust exposed areas.

Skin contact: Wash skin with water and/or a mild detergent.

Eye contact: Rinse eyes with water/saline solution. See a physician upon persistent discomfort.

Ingestion: Very unlikely. No need to administer any remedy although water will help rinse stomach.

4.2 Most Important Symptoms

No acute danger of poisoning or harm to a human health – the substance is not classified.

5. FIRE-FIGHTING MEASURES

5.1 Suitable Extinguishing Media

FeMn fume is not flammable and the dust entails no danger of explosion.

Not applicable

5.2 Unsuitable Extinguishing Media

Not applicable

5.3 Special Hazards Arising From the Substance or Mixture

None

5.4 Advice for Fire Fighters

Not applicable

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment, and Emergency Procedures**6.1.1 For non-emergency personnel**

Use personal protective equipment (see section 8).

6.1.2 For emergency personnel

Ensure adequate ventilation and ventilate closed spaces before entering.

Avoid generation of dust.

Keep unprotected persons away.

Wear suitable protective equipment. (see section 8)

Avoid inhalation: ensure that sufficient ventilation or suitable respiratory protective system is used, wear suitable protective equipment. (see section 8)

6.2 Environmental Precautions

The preparation is not considered an environmental hazard based on the available studies. However it is advisable to keep away from drains as large quantities could clog drains.

6.3 Methods and Material for Containment and Cleaning up

Material in the form of dust should be collected in the suitable containers to prevent inhalation of dust particles.

Use dust protection respiratory cover.

Methods for Containment: shovels, brooms, vacuum cleaners, etc.

6.4 Reference to Other Sections

For more information on exposure controls or personal protection, please, see section 8.

7. HANDLING AND STORAGE

7.1 Handling

Avoid generation of dust. Wear protective clothing, gloves and goggles. Wear suitable respiratory protection where necessary.

FeMn fume is delivered as a bulk material (in its original form or micropelletized) in non-permeable packaging transported in covered trucks, railway wagons or cars, containers, cisterns or in other suitable transport vehicles. FeMn fume can also be delivered in the form of briquettes upon customer`s request.

7.2 Storage

Store the product in closed warehouses, silos, containers and non-permeable packaging (big bags) according with PVP-01/2015 Operating the Dedusting Systems of Furnaces.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters

Occupational Exposure Limit (OEL): 0.05 mg/m³ inhalable dust of slag from FeMn manufacturing

Long-term Derived No Effect Level (DNEL): can be achieved by controlling a level of inhalable dust below OEL.

PNEC _{water}:

Solubility of zinc in water under a treshold value

8.2 Exposure Controls

To control potential exposures a generation of dust should be avoided. An appropriate protective equipment is recommended. With visible raising of dust from FeMn fume, working and safety measures that constrain raising of fine-grained dust above 0.05 mg/m³ should be implemented.

8.2.1 Appropriate Engineering Controls

Please, measure occupational exposure level on a regular basis. If user operations generate dust, use local exhaust ventilation or other controls to keep airborne dust levels below exposure limits.

8.2.2 Individual Protection Measures

8.2.2.1 Eye/Face Protection

Wear protective goggles.

8.2.2.2 Skin Protection

Wear protective clothes and gloves. Use a hand protective cream.

8.2.2.3 Respiratory Protection

Wear protective respiratory system when exposed to dust.

8.2.3 Environmental Exposure Controls

Emissions from ventilation or work place process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Concentration below 1 mg/m³ under BAT-AOL does not pose a threat to environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties

Appearance:	Dark brown in colour, solid
Odour:	Slight dusty odour
Odour threshold:	Does not apply, substance is odourless
pH:	not applicable
Boiling point:	not applicable (solid with a melting point > 300°C)
Melting/freezing point:	> 1,500 °C
Flash point:	not applicable (substance inorganic)
Flammability:	non flammable (EU Method A.10)
Explosive properties:	non explosive
Oxidizing properties:	non oxidizing (EU Method A.17)
Vapour pressure:	not applicable (melting point > 300°C)
Bulk density:	400.0 – 1,250.0 kg/m ³
Mass activity index:	≤ 1.0
Solubility in water:	not soluble
Partition coefficient n-octanol/water (log value):	not applicable (substance inorganic)
Viscosity:	not applicable (substance solid not liquid at ambient temperature)
Self-ignition temperature:	non flammable
Dissociation constant:	cannot dissociate due to lack of relevant functional groups
Surface tension:	substance is not surface active
Stability in organic solvents:	not applicable (substance inorganic)

9.2 Other Information

No additional information relevant to the safe use of the substance.

10. STABILITY AND REACTIVITY

10.1 Reactivity

FeMn fume is not reactive at normal ambient conditions.

10.2. Chemical Stability

FeMn fume is chemically stable at normal ambient, handling, and storage conditions.

10.3 Possibility of Hazardous Reactions

No hazardous reactions when handled and stored according to provisions.

10.4 Conditions to Avoid

Avoid highly acidic conditions. Avoid dumping where leaching may occur.

10.5 Incompatible Materials

Acids, bases, reducing and oxidising agents

10.6 Hazardous Decomposition Products

Does not decompose when used for intended uses

11. TOXICOLOGICAL INFORMATION

Toxicity Endpoints	Outcome of the Effects Assessment
Acute Toxicity	Dust may cause irritation to nose, throat and lungs.
Skin Corrosion/Irritation	Redness and soreness of the skin.
Serious Eye Damage/Irritation	May cause irritation of eyes.
Germ Cell Mutagenicity	Not applicable
Carcinogenicity	None
Toxicity for Reproduction	Unknown
Specific Target Organ Toxicity (Single Exposure)	Based on available data the classification criteria are not met.
Specific Target Organ Toxicity	Ulceration of the central nasal septum of nose, chronic dermatitis over a

(Repeated Exposure)	prolonged period of time.
Aspiration Hazard	Data lacking

12. ECOLOGICAL INFORMATION

FeMn fume is not classified as environmentally hazardous product. Evaluation according to Annex I of Regulation (EC) No. 1907/2006 (REACH) is required only for substance that meets the criteria, categories or properties of any of the hazard classes as it is set forth in Article 14 Section 4 Annex XI of Regulation (EC) No. 1907/2006 (REACH) as amended.

13. DISPOSAL CONSIDERATIONS

Waste from FeMn fume (unusable product) is pursuant to Act on Waste 79/2015 coll. classified as hazardous in category no. 10 10 09.

Handling and transporting this unusable product as a waste shall be in accordance with Act on Waste, Directive 2008/98/EC on Waste and Regulation (EC) No 1013/2006 on Shipment of Waste.

14. TRANSPORT INFORMATION

FeMn fume is not classified as hazardous for transport and transported according to ADR (road) and RID (rail). This material is also not classified as dangerous for transport according to IMDG (Sea).

Material in its original form is loaded onto motor vehicles in packaging such as big bags, bags and barrels. A bulk material can be transported in cisterns. FeMn fume can also be delivered in bulk in the form of briquettes. Avoid dust formation during transportation using covering sheets.

15. REGULATORY INFORMATION

UN GHS - UN Globally Harmonized System of Classification and Labeling of Chemicals (GHS):
“According to Chapter 1.5.2 of the UN Globally Harmonized System of Classification and Labeling of Chemicals (GHS) safety data sheets (SDS) are only required for substances and mixtures that meet the harmonized criteria for physical, health or environmental hazards. This product does not meet these criteria.

With regard to FeMn fume there are no special regulations, restrictions and prohibitions.

16. OTHER INFORMATION

These data are based on our current knowledge but do not constitute a guarantee for any specific product features and do not establish a legally valid contractual relationship.

16.1 List of Abbreviations

DNEL: derived no-effect level

OEL: occupational exposure limit

PNEC: predicted no-effect concentration

UVCB: Substances of unknown or variable composition, complex reactions products
and biological materials

APPENDIX**Table 1 Identified Uses of the Substance/Mixture**

Identified Use	Process Category (PROC)	Preparation Category (PC)	ERC code	Sector of End Use (SU)	Article Category (AC)
Use as a secondary raw material (original undensified, micropelletized, briquettes) for ferroalloy manufacturing	PROC 8a, 8b		ERC 6a		
Use as a secondary raw material for manufacturing of ferrous and non-ferrous metals	PROC 8a, 8b		ERC 6a		
Use for backfilling and reconstruction of a fall zone	PROC 8a, 8b	PC 0	ERC 10a	SU 19	AC 0: C18.2

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