

## PRODUCT SAFETY DATA SHEET

(Prepared according to Annex II of the EP and Council Regulation 1907/2006/EC and Commission Regulation (EU) 2020/878)

Number: KBU-OFZ-02-EN

Rev. 7

Page 1/ 11

Release date: March 10, 2015

Date of revision: December 12, 2022

## PRODUCT SAFETY DATA SHEET

for

**FeMn fume**

(Prepared according to Annex II of the EP and Council Regulation 1907/2006/EC and Commission Regulation (EU) 2020/878)

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product identifier

Substance Name:	FeMn fume
Chemical name:	69012-28-8 / Slags, ferromanganese- manufg.
Synonyms:	Fume from production ferromanganese
Trade name:	FeMn fume
EINECS:	273-728-1
CAS:	69012-28-8
REACH registration number:	01-2119446651-40-0008

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

Brief description of the uses of the substance:

See the identified ways of using the substance/preparation in Table 1 of the Annex to the Safety Data Sheet.

Unrecommended uses:

For backfilling and reconstruction of the landslide zone.

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

Name:	OFZ, a.s.
Address:	Široká 381, 027 41 Oravský Podzámok, Slovakia
Phone number:	+421 /43/5804 111
Fax number:	+421/43/5804 320
E-mail:	ofz@ofz.sk

## PRODUCT SAFETY DATA SHEET

(Prepared according to Annex II of the EP and Council Regulation 1907/2006/EC and Commission Regulation (EU) 2020/878)

Number: KBU-OFZ-02-EN

Rev. 7

Page 2/ 11

Release date: March 10, 2015

Date of revision: December 12, 2022

### 1.4 Emergency telephone number

European emergency tel. number: 112

Emergency by phone number.  
company: +421/43/5804 111

National toxicological  
information center: +421 2 5477 4166

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification substances or mixture

#### 2.1.1 Classification substances according to regulations CLP / GHS

The substance does not meet the criteria for classification in accordance with Regulation EC 1272/2008.

### 2.2 Label elements

#### 2.2.1 Labeling according to regulations CLP / GHS

The substance does not meet the criteria for classification in accordance with Regulation EC 1272/2008.

Signal word: None

### 2.3 Other hazards

Eyes: May irritate eyes.

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

Ingestion: No is a most likely. None known unfavorable 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: The substance of the variable composition (UVCB) containing metallic oxides originating from production FeMn.

Degree of purity: 100.0 % (w/w)

## PRODUCT SAFETY DATA SHEET

(Prepared according to Annex II of the EP and Council Regulation 1907/2006/EC and Commission Regulation (EU) 2020/878)

Number: KBU-OFZ-02-EN

Rev. 7

Page 3/ 11

Release date: March 10, 2015

Date of revision: December 12, 2022

### 3.1 Constituents

Constituents	Typical concentration	Concentration range	Notes
SiO <sub>2</sub> (silicon dioxide) 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 <sub>2</sub> O <sub>3</sub> (aluminum (III)oxide) 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 EINECS: 215-171-9	Not applicable (UVCB substance)	0.0 – 10.0 % (w/w)	
FeO (iron oxide) CAS: 1345-25-1 EINECS: 215-721-8	Not applicable (UVCB substance)	≤ 5.0 % (w/w)	
K <sub>2</sub> O (potassium oxide) CAS: 12136-45-7 EINECS: 235-227-6	Not applicable (UVCB substance)	≤ 25.0 % (w/w)	
Na <sub>2</sub> O (sodium oxide) CAS: 1313-59-3 EINECS: 215-208-9	Not applicable (UVCB substance)	≤ 5.0 % (w/w)	
SO <sub>3</sub> (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 Admixtures

The substance does not contain any additives necessary for classification and labeling.

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

General information:

In contact with clothes, skin and eyes, no damage to health is expected. However, in the event of an accident or persistent discomfort, seek medical attention immediately.

Inhalation:

Mechanical irritation of the respiratory tract: Move the person out of the dusty area.

Skin contact:

Rinse the skin with a sufficient amount of water or mild soap.

## PRODUCT SAFETY DATA SHEET

(Prepared according to Annex II of the EP and Council Regulation 1907/2006/EC and Commission Regulation (EU) 2020/878)

Number: KBU-OFZ-02-EN

Rev. 7

Page 4/ 11

Release date: March 10, 2015

Date of revision: December 12, 2022

Contact with eyes: Rinse eyes with a sufficient amount of water. If symptoms persist, seek medical attention.

Ingestion: Not likely. It is not necessary to administer any medication, although it is good to drink plenty of water.

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

There is no acute risk of harm to health or poisoning - the substance is not classified.

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

#### Suitable:

FeMn fume is not flammable and the dust does not pose a risk of explosion. Not applicable.

#### Unsuitable:

Not applicable.

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

None

### 5.3 Advice for firefighters

It is not determined.

## 6. ACCIDENTAL RELEASE MEASURES

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

#### 6.1.1 For non-emergency personnel

Wear suitable protective equipment (see section 8).

#### 6.1.2 For emergency personnel

Ensure adequate ventilation. Ensure that the closed spaces are well-ventilated before entering.

Avoid stirring up the dust and dust formation.

Wear appropriate protective equipment. (see section 8)

Avoid inhalation: make sure the area is well ventilated or wear suitable respirators, wear suitable protective equipment. (see section 8)

## PRODUCT SAFETY DATA SHEET

(Prepared according to Annex II of the EP and Council Regulation 1907/2006/EC and Commission Regulation (EU) 2020/878)

Number: KBU-OFZ-02-EN

Rev. 7

Page 5/ 11

Release date: March 10, 2015

Date of revision: December 12, 2022

### 6.2 Environmental preventively measures

Based on the available studies, the given substance does not endanger the environment.

However, large amounts of material can clog drains, so disposing of it in this way is not recommended.

### 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.

Wear suitable respiratory protection.

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

### 6.4 Reference to other sections

For more detailed information regarding exposure controls and personal protective equipment, see section 8.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid stirring up the dust and dust formation. Wear protective clothes, gloves and safety glasses.

Wear suitable respiratory protection where necessary.

FeMn fume is delivered in bulk (natural form or micropelletized) packed in impermeable packages, transported on truck bodies, railway wagons, containers, tank cars, railway tanks or other suitable means of transport. Delivery in the form of briquettes is possible upon request.

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

FeMn fume can be stored in closed warehouses, in silos, containers or in impermeable closed large-capacity bags (big-bags) according to the work procedure PVP-01/2015 Operation of the furnace dedusting equipment.

### 7.3 Specific end use(s)

No information available.

## PRODUCT SAFETY DATA SHEET

(Prepared according to Annex II of the EP and Council Regulation 1907/2006/EC and Commission Regulation (EU) 2020/878)

Number: KBU-OFZ-02-EN

Rev. 7

Page 6/ 11

Release date: March 10, 2015

Date of revision: December 12, 2022

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1 Control parameters

##### Exposure limit values

**Occupational Exposure Limit (OEL):** 0.05 mg/m<sup>3</sup> 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<sub>water</sub>:** Solubility of zinc in water under a threshold 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/m<sup>3</sup> should be implemented.

##### 8.2.1 Workplace exposure control

Measure the occupational exposure limit regularly. If dust is generated during the handling of the material, use an extraction or ventilation system or other means to maintain dust limit values in the air.

##### 8.2.2 Personal protective equipment

###### 8.2.2.1 Eye/face protection

Wear safety glasses.

###### 8.2.2.2 Skin protection

Wear protective clothes, gloves and use protective hand cream.

###### 8.2.2.3 Protection of the respiratory system

Use a respirator when exposed to dust.

##### 8.2.3 Control environmental exposure

Dust emissions from the ventilation system or workplace must be checked to see if they meet the requirements of environmental protection legislation.

A concentration below 1 mg/m<sup>3</sup> in terms of BAT-AOL does not endanger the environment.

## PRODUCT SAFETY DATA SHEET

(Prepared according to Annex II of the EP and Council Regulation 1907/2006/EC and Commission Regulation (EU) 2020/878)

Number: KBU-OFZ-02-EN

Rev. 7

Page 7/ 11

Release date: March 10, 2015

Date of revision: December 12, 2022

### 9. PHYSICAL AND CHEMICAL PROPERTIES

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

Appearance:	dark brown, in solid state
Smell:	slight dusty
Odor threshold:	none, the substance is odorless
pH:	not determined
Boiling point:	not determined (substance in a solid state with melting point > 300°C)
Melting/solidification temperature:	> 1,500 °C
Flash point	not determined (substance is a inorganic)
Flammability:	non-flammable (EU method A.10)
Explosive properties:	not explosive
Oxidizing properties:	does not oxidize (EU method A.17)
Vapor pressure :	not determined (melting point > 300°C)
Bulk weight :	400.0 – 1250.0 kg/m <sup>3</sup>
Mass activity index:	≤1.0
Solubility in water:	not soluble
Distribution coefficient n- octanol /water (log. value):	not determined (substance is inorganic)
Viscosity:	not determined (at normal ambient temperature, the substance is solid and not liquid)
Auto-ignition temperature:	non-flammable
Dissociation constant:	the substance does not decompose due to the lack of appropriate functional groups
Surface tension:	the substance is not active on the surface
Stability in organic solvents:	not determined (substance is inorganic)

#### 9.2 Other information

No further information is available regarding the safe use of the substance.

## PRODUCT SAFETY DATA SHEET

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Number: KBU-OFZ-02-EN

Rev. 7

Page 8/ 11

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### 10. STABILITY AND REACTIVITY

#### 10.1 Reactivity

FeMn fume is not reactive under normal conditions.

#### 10.2 Chemical stability

Under normal temperature conditions, conditions of storage and use, the given substance is stable.

#### 10.3 Possibility of hazardous reactions

If the material is handled and stored according to the instructions, there is no risk of dangerous reactions.

#### 10.4 Conditions to avoid

Avoid a highly acidic environment. Do not dispose of in places where leaching of substances may occur.

#### 10.5 Incompatible materials

Acids, bases, reducing and oxidizing agents

#### 10.6 Hazardous decomposition products

They are not, if the preparation is used in accordance with the intended use

### 11. TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects

Final points	The result of the impact assessment
Acute toxicity	It can cause irritation of the nasal mucosa, throat and lungs.
Etching skin/Irritation skin	Redness a soreness of the skin
Seriously damage eyes/Irritation eyes	May cause eye irritation.
Germ cell mutagenicity	It is not established
Carcinogenicity	None
Reproductive toxicity	Not is a known
Specific target organ toxicity (STOT) - single exposure	Based on the available data, the criteria for inclusion of the substance are not met.
Specific target organ toxicity (STOT) - repeated exposure	Blisters on the nasal mucosa, chronic dermatitis after a long period of exposure.
Risk of aspiration	Lack of data.



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Number: KBU-OFZ-02-EN

Rev. 7

Page 9/ 11

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### 12. ECOLOGICAL INFORMATION

FeMn fume is not classified as dangerous for the environment. An assessment according to Annex I to the REACH Regulation is required only if the substance meets the criteria, category or properties for any hazard class according to Article 14 para. 4, which are to be applied according to Annex XI of Regulation 1907/2006 in the current and effective version.

### 13. DISPOSAL CONSIDERATIONS

#### 13.1 Waste treatment methods

Waste from FeMn fume (unusable product) is, in accordance with Act no. 79/2015 Coll. on waste classified as hazardous waste cat. no. 10 10 09. Handling of this unusable product as waste must therefore take place in accordance with the Waste Act, or EPaR Directive 2008/98/EC and Regulation of the European Parliament and Council (EC) no. 1013/2006 on waste transportation.

### 14. TRANSPORT INFORMATION

#### 14.1 Basic information about transportation

FeMn fume is not subject to regulations on the transport of dangerous goods related to road transport (ADR) and railways (RID). The material is classified as dangerous for transport by sea (IMDG).

The material is delivered in its original form when loaded onto motor vehicles in a package, such as big bags, sacks, barrels. Bulk material can be transported in tanks. FeMn drift can also be delivered in the form of briquettes as bulk. During transport, prevent the formation of dust with suitable cover sheets.

### 15. REGULATORY INFORMATION

#### 15.1 Safety, health and environmental regulations/legal regulations concerning the substance

GHS - UN Globally Harmonized System of Classification and Labeling of Chemical Substances (GHS):

According to Chapter 1.5.2 of the UN Globally Harmonized System of Classification and Labeling of Chemical Substances (GHS), safety data sheets (SDS) are required only for substances and mixtures that meet the harmonized criteria for endangering safety, health and the environment. This product does not meet these criteria.

#### 15.2 Chemical safety assessment

There are no special regulations, restrictions and prohibitions.

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Number: KBU-OFZ-02-EN

Rev. 7

Page 10/ 11

Release date: March 10, 2015

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### 16. FURTHER INFORMATION

These data are based on our current knowledge, but do not represent any guarantee of any particular product properties and do not establish any legally binding contractual relationships.

#### 16.1 List used abbreviations

DNEL:	derived no-level effect
OEL:	workplace exposure limit value
PNEC:	predicted no-effect concentration
UVCB:	substances of unknown or variable composition, products of complex reactions or biological materials.

### ANNEX

#### Blackboard 1 Ways of use substances or mixture

Identified method of use	Category processes (PROC)	Chemical products category (PC)	Environmental release category (ERC)	Sector of use (SU)	Product Category (AC)
How secondary raw material (original uncompact micropelletized, briquettes) on the	PROC 8a, 8b		ERC 6a		
How secondary raw material at production Fe a non-ferrous metals	PROC 8a, 8b		ERC 6a		
Production of inorganic fertilizers	PROC 5		ERC 6a		

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Rev. 7

Page 11/ 11

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