PRODUCT SAFETY DATA SHEET

for

FeSiMn 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 THE COMPANY/UNDERTAKING

1.1 Product identifier

Substance name:	FeSiMn fume
Chemical name:	273-733-9 / Slags, silicomanganese-manufg
Synonyms:	-
Trade name:	FeSiMn fume
EINECS:	273-733-9
CAS:	69012-33-5
REACH registration number:	01-2119440597-32-0003

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

1.4 Emergency telephone number

European emergency tel. number: 112

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

National toxicological information center: +421 2 5477 4166

2. HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

2.1.1 Classification of the substance according to the CLP / GHS regulation

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 the CLP / GHS regulation

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: Not likely. 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: Substance of variable composition (UVCB) containing metal oxides originating from the production of FeSiMn.

Degree of purity: 100.0% (w/w)

3.1 Constituents

Constituents	Typical concentration	Concentration span
SiO_2 (silicon dioxide) CAS: 7631-86-9 EINECS: 231-545-4	not determined (UVCB substances)	15 – 45.0 % (w/w)
CaO (calcium oxide) CAS: 1305-78-8 EINECS: 215-138-9	not determined (UVCB substances)	0 – 10.0 % (w/w)
Al_2O_3 (aluminium (III) oxide) CAS: 1344-28-1 EINECS: 215-691-6	not determined (UVCB substances)	0 – 10.0 % (w/w)
Mn (manganese) CAS: 7439-96-5 EINECS: 231-105-1	not determined (UVCB substances)	15.0 – 35.0 % (w/w)
MgO (magnesium oxide) CAS: 1309-48-4 EINECS: 215-171-9	not determined (UVCB substances)	0 – 10.0 % (w/w)
FeO (iron oxide) CAS: 1345-25-1 EINECS: 215-721-8	not determined (UVCB substances)	≤ 5.0 % (w/w)
K_2O (potassium oxide) CAS: 12136-45-7 EINECS: 235-227-6	not determined (UVCB substances)	≤ 25.0 % (w/w)
Na_2O (sodium oxide) CAS: 1313-59-3 EINECS: 215-208-9	not determined (UVCB substances)	≤ 5.0 % (w/w)
SO_3 (sulfur trioxide) CAS: 7446-11-9 EINECS: 231-197-3	not determined (UVCB substances)	≤ 7.0 % (w/w)
Zn (zinc)	not determined (UVCB substances)	≤ 5.0 % (w/w)
C (carbon)	not determined (UVCB substances)	≤ 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 outside the danger area to fresh air.

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

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:

FeSiMn fume is not flammable and the dust does not pose a risk of explosion.

Unsuitable:

Not applicable

5.2 Special hazards arising from the substance or mixture

None

5.3 Advice for firefighters

Not applicable

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.

Prevent unauthorized persons from entering.

Wear appropriate protective equipment. (see section 8)

Avoid inhalation, ensure adequate ventilation and use suitable respirators, wear suitable protective equipment. (see section 8)

6.2 Environmental precautions

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 must be collected in suitable containers to prevent inhalation of dust particles.

To protect against dust, use suitable respiratory systems.

Cleaning methods: 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 clothing, gloves and goggles.
Use suitable respirators shhhhen necessary.
Avoid contact with inorganic substances.
FeSiMn fume is transported in bulk (natural form or micropelletized) on tarpaulin trucks, railway wagons, tankers or in large-capacity bags (big- bags). Delivery in the form of briquettes is also possible upon request.

7.2 Conditions for safe storage, including any incompatibilities

FeSiMn fume can be stored in closed warehouses, in silos, in closable containers and in large-capacity bags (big-bags).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure limit values

Occupational Exposure Limit (OEL): 0.05 mg/m ^{3} inhaled dust from FeSiMn fume

Derived No Effect Limit (DNEL): is achieved by keeping the OEL below the exposure limit.

8.2 Exposure controls

To control exposure, prevent a visible raising of the dust. It is recommended to use suitable protective equipment. In case of visible raising of dust from FeSiMn fume take appropriate measures at the workplace to ensure that airborne dust does not exceed 0.05 mg/m^3.

8.2.1 Workplace exposure control

Measure the occupational exposure limit regularly. If dust is generated during handling of the material, use an exhaustion 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 of environmental exposure

Dust emissions from the ventilation system at the workplace must be checked regularly to see if they meet the requirements of environmental protection legislation. A concentration below 5 mg/m^3 in terms of BAT-AOL does not endanger the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	brown, in solid state
Smell:	Slightly dusty
Odor threshold:	none, the substance is odorless
pH:	not determined
Boiling point:	not determined (substance in a solid state with a melting point > 300°C)
Melting/solidification temperature:	> 1,500 °C
Flash point:	not determined (substance is 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 temperature > 300°C)
Bulk weight:	400-1000 kg/m ^{3}
Mass activity index	≤ 1.0
Solubility in water:	insoluble
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.

10. STABILITY AND REACTIVITY

10.1 Reactivity

FeSiMn 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

End points	The result of the impact assessment
Acute toxicity	It can cause irritation of the nasal mucosa, throat and lungs.
Skin corrosion/Skin irritation	Redness and soreness of the skin
Serious eye damage/Eye irritation	May cause eye irritation.
Germ cell mutagenicity	It is not established
Carcinogenicity	None
Reproductive toxicity	It is not 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.

12. ECOLOGICAL INFORMATION

FeSiMn 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 FeSiMn 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

FeSiMn 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. FeSiMn fume 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/legislation specific for the substance or mixture

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 or prohibitions in connection with FeSiMn fume.

16. FURTHER INFORMATION

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

16.1 List of abbreviations used

DNEL:	derived no effect limit
OEL:	workplace exposure limit value
PNEC:	predicted zero effect concentration
UVCB:	substances of unknown or variable composition, products of complex reactions or biological materials
BAT-AEL	Conclusions on BAT

ANNEX

Table 1 Ways of using the substance or preparation

Identified method of use	Process category (PROC)	Chemical Product Category (PC)	Environmental release category (ERC)	Sector of Use (SU)	Product category (AC)
As a secondary raw material (original uncompacted, micropelletized, briquettes) for the production of ferroalloys	PROC 8a, 8b		ERC 6a		
As a secondary raw material in the production of ferrous and non-ferrous metals	PROC 8a, 8b		ERC 6a		

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