

CARD OF CHARACTERISTIC FEATURES

Date of formation / date of updating: 01.10.2003 / 01.07.2008

1. IDENTIFICATION OF SUBSTANCE / PREPARATION AND IDENTIFICATION OF ENTERPRISE

1.1. Identification of substance or preparation

Spheroidizing mortars – FeSiMg + CeCa

1.2. Application of substance / preparation

Spheroidizing mortars are the most generally used spheroidizing materials in the production of all kinds of ductile cast irons under every foundry conditions.

1.3. Identification of enterprise

Huta „Łaziska” S.A.
ul. Cieszyńska 23
43-170 Łaziska Górne

1.4. Emergency phone number

Phone: +48 (32) 3247100, +48 (32) 2241500
Fax: +48 (32) 2241523

2. IDENTIFICATION OF THREATS

On observation of the storage recommendations (point 7), the product constitutes no threat neither to the health, nor to the environment.

Inflammable and harmful gases may be formed in contact with humidity, acids or bases (point 10).

The dust suspended in the air may cause explosion under certain conditions.

3. COMPOSITION / INFORMATION ON COMPONENTS

Dangerous components – none

Symbol – none

Content

Si	43,0 – 48,0 %
Mg	5,0 – 11,0 %
Ce	0,4 – 1,0 %
Al	max 1,2 %
Ca	max 1,2 %

Formula	No CAS	No EC (EINECS)
Si	7440-21-3	231-130-8
Fe	7439-89-6	231-096-4
Mg	7439-95-4	231-104-6
Ce	7440-45-1	231-154-9
Ca	7440-70-2	231-179-5

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4. FIRST AID

On contact with skin; rinse with water with addition of mild detergent.

On contact with eyes; rinse eyes with water.

On consumption; cause vomiting.

On inhalation; take out into fresh air.

On obstinate ailments, or in case of poisoning (point 11), call medical help and take out person from area, where dust occurs.

5. LINE OF CONDUCT IN CASE OF FIRE

Extinguishing media, dry sand, CO_2 , dry extinguishing powder.

Dry spheroidizing mortars in the form of lumpy materials and granulated products are not combustible preparations.

Dust of spheroidizing mortars mixed in the air may under certain circumstances cause explosion.

6. LINE OF CONDUCT IN CASE OF UNINTENDED LIBERATION INTO THE ENVIRONMENT

The material in a dusty form should be kept in appropriate containers. Moistened products should be separated from dry ones and after their collection it is not allowed to keep them in closed containers.

7. LINE OF CONDUCT WITH SUBSTANCE / PREPARATION AND ITS STORAGE

7.1. Line of conduct with substance / preparation

Avoid formation and collection of dust and also its inhalation.

7.2. Storage

In a dry and well ventilated area, far from acids and bases.

8. INSPECTION OF EXPOSURE AND MEANS OF INDIVIDUAL PROTECTION

At contents of free crystalline silica (SiO_2 WWK) below 2% the NDS of the dust is equal to 10 mg/m^3 (Regulation of the Minister of Labour and Social Policy from the 29th November 2002 in matters of the highest permissible concentrations and intensities of agents, which are harmful to the health in the working place (Journal of Law No. 217, pos. 1833).

- a) Protection of airways
secure good ventilation, in places of insufficient ventilation use dust - mask
- b) Protection of hands
use protective gloves
- c) Protection of eyes
use protections (goggles)

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. General information

Form - lumpy material, granulated product, screened fractions, cyclonic dust,

Colour - silver - grey, metallic

Odour - none

Solubility - not soluble in water

- soluble in a mixture of mineral acids

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9.2. Important information concerning the health, safety and environment

Melting point 910°C (solidus), 1225°C (liquidus)
Specific gravity about 4,5 g/cm³

10. STABILITY AND REACTIVITY

10.1. Conditions to be avoided

At places with high dust concentrations avoid spark formation and other sources of ignition.

10.2. Factors to be avoided

Avoid contact with such materials as; water/moisture, acids, bases.
Reaction with hydrogen fluoride (HF) or nitric acid (HNO₃) leads to the formation of toxic gases, such as silica tetrafluoride (SiF₄) or nitric oxides (NO_x).

10.3. Dangerous decomposition products

10.2. Dangerous decomposition products

Dangerous decomposition products; highly inflammable hydrogen (H₂) and very toxic gases –
- hydrogen phosphide, arsenous hydride may be formed, if FeSiMg will be in contact with moisture, acids or bases. Reaction with hydrogen fluoride (HF) or with nitrous acid (HNO₃) leads to the formation of toxic gases, such as silica tetrafluoride (SiF₄) or nitrogen oxides (NO_x).

11. TOXICOLOGICAL INFORMATION

Inhalation; fine dust may irritate and dry up the mucous membranes. Hydrogen phosphide / arsenous hydride may be absorbed from the dust deposited on the mucous membrane. Hydrogen phosphide irritates the mucous membranes, central nervous system and may cause pulmonary oedema.
Acute immortal poisoning with hydrogen phosphide renders temporary effects, among others; headaches, malaise, abdominal pains, cough and breathing troubles.

On contact with skin; dust may irritate skin.
On contact with eyes; dust may irritate and dry up eyes.
Long lasting effects; prolonged exposure to the action of hydrogen phosphides may lead to chronic effects, such as difficulties with gait and problems with speech.

12. ECOLOGICAL INFORMATION

The product is not described as dangerous for the environment.

13. LINE OF CONDUCT WITH DISCARDS

Discards from spheroidizing mortars are not classified as dangerous discards.
The material should be recovered and recycled wherever it is possible.
The line of conduct with discards should be subordinated to the requirements of the Statute from the 27th April 2001 on discards, Journal of Law No. 628, with later amendments and Statute from the 27th April 2001, Right on the Environmental Protection (Journal of Law No. 62, pos. 627, with later amendments)

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14. INFORMATION ON THE TRANSPORT

The chemical composition (described in point 3) testifies to the fact, that the shipment and the material in a packaged form or in bulk are not dangerous according to the marking IMDG, ICAO/IATA and ADR/RID.

15. INFORMATION ON LEGAL RULES

Classification of product and marking:
Symbol – is not subject to classification
return R – none
return S - none

Regulation of the Minister of Health from the 13th November 2007 on the card of characteristic features (Journal of Law 2007, No. 215, pos. 1588).

Regulation (WE) No. 1907/2006 of the European Parliament and Council from the 18th December 2006.

Regulation of the Minister of Labour and Social Policy from the 29th November 2002 on the highest permissible concentrations and intensities of agents harmful to the health at the work place (Journal of Law No. 217, pos. 1833).

Statute from the 27th April 2001 on discards (Journal of Law No. 62 pos. 628 with later amendments).

Statute from the 27th April 2001, Law on Environmental Protection (Journal of Law No. 62 pos. 627 with later amendments).

Regulation of the Minister of Health from the 28th September 2005 on the list of dangerous substances together with their classification and marking (Journal of Law 05 No. 201 pos. 1674).

Regulation of the Minister of Health from the 2nd September 2003 on the criteria and method of classification of chemical substances (Journal of Law 2003 No. 171 pos. 1666 with later amendments).

16. OTHER INFORMATION

The present card is the property of the Huta "Łaziska" S.A. Steel – Works "Łaziska" Joint Stock Company and gives a description of the product of the Steel – Works on the ground of the knowledge and experience owned by the plant.