

## CARD OF CHARACTERISTIC FEATURES

Date of formation / date of updating: 01.10.2003 / 12.09.2008

### 1. IDENTIFICATION OF SUBSTANCE / PREPARATION AND IDENTIFICATION OF ENTERPRISE

#### 1.1. Identification of substance or preparation

KOMO BaSr

#### 1.2. Application of substance / preparation

Multi-compotent inoculants for direct inoculation of high quality cast iron in the form of KOMO BaSr. Inoculants on the basis of ferrosilicon with fixed content of such inoculating elements as Ca, Ba, Sr are for inoculating high quality cast iron with flake graphite, lumpy and modular graphite (nodular cast iron).

#### 1.3. Identification of enterprise

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

#### 1.4. Emergency phone number

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

### 2. IDENTIFICATION OF THREATS

If the storage recommendations (item 7) are followed, the product does not constitute any threat to health or environment.

Inflammable and harmful gases may form, acids or bases (item 10) in contact with humidity. Dust suspended in the air may be the cause of explosion at certain conditions,.

### 3. COMPOSITION / INFORMATION ON COMPONENTS

KOMO BaSr  
Dangerous components – none  
Symbol – none

Content:

Si	72 - 77%
Al	1 - 1,5%
Ca	0,4 - 0,8%
Ba	0, 4- 1,5%
Sr	0,4 - 0,6%

Formula	No CAS	No EC (EINECS)
Si	7440-21-3	231-130-8
Fe	7439-89-6	231-096-4
Sr	7440-24-6	231-133-4
Ba	7440-39-3	231-149-1
Ca	7440-70-2	231-179-5

#### **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 person into fresh air.

On obstinate ailments or in case of poisoning (point 11), call for medical assistance, and take the person out of the area of dust occurrence.

#### **5. LINE OF CONDUCT IN CASE OF FIRE**

Extinguishing media; dry sand, CO<sub>2</sub>, dry extinguishing powder.

Dry inoculants in the form of lumpy material and in the form of a granulated product are not combustible substances.

Inoculants dust mixed in the air may cause explosion under certain conditions.

#### **6. LINE OF CONDUCT IN CASE OF UNINTENDED RELEASE INTO THE ENVIRONMENT**

The material in the form of dust should be kept in appropriate containers. Moistened products should be separated from dry ones and after their collection they should not be kept in closed containers.

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

##### **7.1. Line of conduct with the substance / preparation**

Avoid formation and collection of dust as well as its inhalation.

Avoid sources of ignition at places with high dust concentrations.

##### **7.2. Storage**

Inoculants must be kept in a dry and well ventilated place, far from acids and bases.

#### **8. INSPECTION OF EXPOSURE AND MEANS OF INDIVIDUAL PROTECTION**

At an amount of free crystalline silica (SiO<sub>2</sub> WWK) below 2% the NDS of dust is equal to 10 mg/m<sup>3</sup> (Regulation of the Minister of Labour and Social Policy from the 29<sup>th</sup> November 2002 in the matter of the highest permissible concentrations and intensities of agents, which are harmful to the health in the place of employment (Journal of Law No. 217, pos. 1833).

a) Protection of airways

ensure good ventilation and use dust-masks at places of insufficient ventilation

b) Protection of hands

use protective gloves

c) Protection of eyes

rinse with stream of water

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. General information

Form	- lumpy material, granulated product, sieved fractions,
Colour	- silver - grey - metallic
Odour	- none
Solubility	- is not soluble in water - soluble in a mixture of mineral acids

### 9.2. Important information concerning health, safety and environment

Melting point 925°C (solidus), 1225°C (liquidus)  
Special gravity 3-3,3 g/cm<sup>3</sup>

## 10. STABILITY AND REACTIVITY

### 10.1. Conditions to be avoided

In places with high dust concentrations avoid the formation of sparks and other sources of ignition. Dusts suspended in the air with concentrations above 100-300 g/m<sup>3</sup> may provoke explosion. Taking into consideration the size of the elementary particle – the ignition sensitivity and the violence of the explosion will decrease with the drop of the Si/Fe ratio. Dust with the ratio Si/Fe ≤ 2 and the elementary particle diameter > 10 μm does not constitute any threat of explosion.

### 10.2. Factors to be avoided

Avoid contact with such substances as; water/humidity, acids, bases. Reaction with hydrogen fluoride (HF) or nitric acid HNO<sub>3</sub> leads to the formation of toxic gases, such as silica tetrafluoride (SiF<sub>4</sub>) or nitric oxides (NO<sub>x</sub>).

### 10.3. Dangerous decomposition products

Dangerous decomposition products; highly inflammable hydrogen (H<sub>2</sub>) and very toxic gases – hydrogen phosphide, arsenous hydride may be formed, if KOMO is in contact with humidity, acids or bases. Reaction with hydrogen fluoride (HF) or with nitrous acid HNO<sub>3</sub> leads to the formation of toxic gases, such as silica tetrafluoride (SiF<sub>4</sub>) or nitrogen oxides (NO<sub>x</sub>).

## 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 non-mortal poisoning with hydrogen phosphide renders temporary effects, such as: headache, malaise, vomiting, abdominal pain, cough and breathing difficulties.

On contact with skin; dust can irritate the skin.

On contact with eyes; dust can irritate and dry up eyes.

Protracted influence; - prolonged exposure to hydrogen phosphide may lead to chronic consequences such as difficulties in the locomotive faculty and problems with speaking.

## **12. ECOLOGY-RELATED INFORMATION**

The product is not described as dangerous to the environment.

## **13. LINE OF CONDUCT WITH DISCARDS**

The discard from the inoculants is not classified as a dangerous discard.  
The material should be recovered and recycled for processing, wherever it is possible.  
The proceedings with discards should be subordinated to the requirements of the Decree from the 27<sup>th</sup> April of the year 2001 on discards Journal of Law No. 62, pos. 628 with later amendments and of the Decree from the 27<sup>th</sup> April 2001, Right of Environment Protection, (Journal of Law No. 62, pos. 627, with later amendments).

## **14. INFORMATION CONCERNING TRANSPORT**

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

## **15. INFORMATION ON LEGAL REGULATIONS**

Classification and marking of the product:

Symbol – is not subject of classification

return R – none

return S - none

Regulation of the Minister of Health from 13<sup>th</sup> 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 18<sup>th</sup> December 2006.

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

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

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

Regulation of the Minister of Health from 28<sup>th</sup> 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 the 2<sup>nd</sup> 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**

This card is the property of the Huta "Łaziska" S.A. Steel – Works "Łaziska" Joint Stock Company and presents a description of the product of the Steel – Works on the basis of the Company's knowledge and experience.