



## Material Safety Data Sheet (MSDS)

This MSDS has been compiled according to Directive 93/112/EC and OSHA Hazard Communication standard

Abrasion Resistant Steel Plates  
CREUSABRO® DUAL

### 1. Identification of the preparation and of the supplying company

Supplying Company :

#### Industeel Creusot

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Solid material products covered by this MSDS are classified as articles and do not constitute a hazardous material in massive form under the terms of OSHA Hazard communication standard. However, fumes, particles may determine potential risks which are described below.

### 2. Composition and Information on ingredients

The chemical composition is :

- ▶ up to 0.50 % C
- ▶ up to 0.005 % S
- ▶ up to 0.020 % P
- ▶ up to 1.00 % Si
- ▶ up to 1.60 % Mn
- ▶ up to 0.60 % Ni
- ▶ up to 1.00 % Cr
- ▶ up to 0.40 % Mo
- ▶ up to 0.80 % Ti

### 3. Hazards identification

These are normally no hazards to man or the environment from the preparation in the forms supplied.

#### INHALATION

Exposures to high concentrations of metallic fumes or dusts may result in irritation of the respiratory tract and/or sensitization of the lungs and other mucous membranes.

Excessive inhalation of fumes from many metals can produce an acute reaction known as "metal fume fever".

#### EYE

Exposure to high concentrations of fumes or dusts may cause irritation and/or sensitization.

#### SKIN

Exposure to dust may cause irritation or sensitization, possibly leading to dermatitis.

#### INGESTION

Ingestion of harmful amounts of products as distributed is unlikely due to its solid, insoluble form. Ingestion of dust may cause nausea and/or vomiting. Serious effects may occur if large amounts of dust are swallowed.

### 4. First-aid measures

- ▶ Inhalation Not applicable
- ▶ Ingestion Get medical attention immediately
- ▶ Skin contact If dust gets on skin, wash contaminated area with soap and water. Remove and wash contaminated clothing. If a persistent rash or irritation occurs, seek medical attention
- ▶ Eye contact Immediately flush with large amounts of running water for several minutes. Seek prompt medical attention.

### 5. Fire-fighting measures

The preparation is not combustible

There are no special hazards or precautions associated with the preparation if in the vicinity of a fire.

### 6. Accidental release measures

Not applicable.

### 7. Handling and storage

#### 7.1. HANDLING

Avoid breathing of and contact with fumes and dusts during processing. No specific requirements for solid formed steel product.

#### 7.2. STORAGE

No special design from storage rooms or vessels.

### 8. Exposure controls Personal protection

#### 8.1. EYE

Safety glasses and goggles when there is a reasonable probability of flying particles or high levels of airborne dust or fumes.

#### 8.2. OTHER PROTECTIVE CLOTHING OR EQUIPMENT

Adequate footwear (safety shoes if necessary) and clothing that protects skin from prolonged or repeated contact. Change clothing if there is a reasonable probability of contamination.

### 9. Physical and chemical properties

- ▶ Appearance : Solid
- ▶ Odour : Odourless
- ▶ Melting point/melting range : 1500-1600°C
- ▶ Flash point : Not applicable
- ▶ Flammability : The substance is not auto-flammable
- ▶ Auto flammability : The substance is not auto-flammable
- ▶ Explosive properties : The substance is not explosive
- ▶ Radioactivity : Not radioactive
- ▶ Oxidizing properties : Oxidable
- ▶ Vapour pressure : not applicable
- ▶ Density at 20°C : 7.85
- ▶ Solubility : Not soluble in water or oil
- ▶ Thermal conductivity at 20°C : 40 W / m-K

### 10. Stability and reactivity

#### 10.1 STABILITY

Stable under normal conditions of use, storage and transport for solid formed product.

#### 10.2 REACTIVITY

Stable at ambient temperature and pressures.

## 11. Toxicological information

### **MANGANESE**

Chronic manganese poisoning may result from prolonged inhalation of manganese dust and fumes. The central nervous system is the chief site of damage from the disease, which may result in permanent disability. A high incidence of pneumonia and other upper respiratory infections has been found in workers exposed to dust or fume of manganese compounds.

### **CHROMIUM**

The health hazards associated with exposure to chromium are dependent on its oxidation state. The metal form (chromium as it exists in this product) is of low toxicity. The hexavalent form and some trivalent forms are toxic. Adverse effects of the hexavalent form on the skin may include ulcerations, dermatitis, and allergic skin reactions.

Carcinogenicity : Chromium and most trivalent chromium compounds have been listed by IARC within Group 3. ACGIH and CIRC have classified water soluble hexavalent chromium compounds as A1, confirmed human carcinogen.

### **MOLYBDENUM**

Based on animal experiments, molybdenum and its compounds are highly toxic. The main features are joint pains in the knees, hands, feet, articular deformities, erythema, and edema of the joint areas.

## 12. Ecological data

No known harmful effects. No precautions are required. The preparation is normally inert in aqueous solutions.

## 13. Disposal considerations

The preparation should be recycled to as large extent as possible. Solid waste generated from product processing should be classified by a competent environmental professional and disposed, processed, or recycled in accordance with federal, provincial and local regulations.

## 14. Transport information

There are no special precautions. Non-dangerous goods.

## 15. Regulatory information

Local laws and regulations should carefully be observed and respected.

## 16. Disclaimer

All information, recommendations and suggestions appearing herein concerning the product are based upon data believed to be reliable. It is the user's responsibility to determine the safety, toxicity, and suitability for their own use of the product described herein.

This information is not intended to serve as a complete regulatory compliance document. This information is offered as a guide to the MSDS user. No guarantees can be made whether the user will be in complete or correct compliance with all applicable regulations when this MSDS is used. It is the user's responsibility to comply with all federal state, and local regulations.

For any information

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