

# SAFETY DATA SHEET

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

**Trade name**

Dore slag

**Product no.**

-

**REACH registration number**

01-2119535124-49-XXXX (UVCB)

**Other means of identification**

EC# 308-515-5, CAS# 98072-60-7

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

**Relevant identified uses of the substance or mixture**

Raw material for precious metal production.

**Uses advised against**

-

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

**Company and address**Boliden Commercial  
Box 750  
SE-101 35 Stockholm  
Sweden

Tel +46 8 610 15 00

Fax +46 8 31 55 45

**Contact person****E-mail**

info.market@boliden.com

**SDS date**

01-06-2015

**SDS Version**

1.0

### 1.4. Emergency telephone number

999 (or 111 for non-emergency medical advice). Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department or the NHS enquiry service). See section 16.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Repr. 1A; H360  
Carc. 1A; H350  
Acute Tox. 3; H301  
Skin Corr. 1B; H314  
Eye Dam. 1; H318  
Acute. Tox. 4; H332  
STOT RE 2; H373  
Aquatic Chronic 1; H410

See full text of H-phrases in section 2.2.

### 2.2. Label elements

**Hazard pictogram(s)**

According to EC-Regulation 1907/2006 (REACH)



## Signal word

Danger!

## Hazard statement(s)

May damage fertility or the unborn child. (H360)  
 May cause cancer. (H350)  
 Toxic if swallowed. (H301)  
 Causes severe skin burns and eye damage. (H314)  
 Harmful if inhaled. (H332)  
 May cause damage to organs through prolonged or repeated exposure. (H373)  
 Very toxic to aquatic life with long lasting effects. (H410)

<b>Safety statement(s)</b>	<b>General Prevention</b>	- Do not breathe dust. (P260). Use only outdoors or in a well-ventilated area. (P271). Avoid release to the environment. (P273). Wear eye protection/protective clothing/protective gloves. (P280). IF exposed or concerned: Get medical advice/attention. (P308+P313).
	<b>Response Storage Disposal</b>	- Dispose of contents/container to an approved waste disposal plant. (P501).

## Identity of the substances primarily responsible for the major health hazards

Dore slag is a UVCB substance, including: Lead, Arsenic, Antimony.

### 2.3. Other hazards

-  
**Additional labelling**

-  
**Additional warnings**

-  
**VOC**

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

NAME:	Slags, precious metal refining
IDENTIFICATION NOS.:	CAS-no: 98072-60-7 EC-no: 308-515-5 REACH-no: 01-2119543724-37-0005
CONTENT:	100%
CLP CLASSIFICATION:	Acute Tox. 4, Acute Tox. 3, STOT RE 2, Skin corr. 1B, Carc. 1A, Repr. 1A, Aquatic Chronic 1 H301, H314, H332, H350, H360, H373, H410

### 3.2. Mixtures

(\*) See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

### Other informations

Dore slag is a UVCB substance, including (name (EC/CAS), concentration): Lead (231-100-4/7439-92-1) 5%, Arsenic (231-148-6/7440-38-2) 5%, Antimony (231-146-5/7440-36-0) 4%.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet. Contact a doctor, if in doubt about the injured person's condition or if the symptoms continue. Never give an unconscious person water or similar.

According to EC-Regulation 1907/2006 (REACH)

**Inhalation**

Get the injured person into fresh air.

**Skin contact**

Remove contaminated clothing and shoes at once. Skin that has come in contact with the material must be washed thoroughly with water and soap.

**Eye contact**

Irrigate the chemical out of eyes with running water urgently. Continue irrigating for 15 minutes. Contact a physician.

**Ingestion**

Call a poison center or doctor/physician if you feel unwell.

**Burns**

Rinse with water until the pain stops and continue for 30 minutes.

**4.2. Most important symptoms and effects, both acute and delayed**

Reproductive toxicity: This product contains teratogenic substances which can do long-term damage to human offspring. The effects on the child can be: death, deformity, delayed development, and functional disorders.

Carcinogenic effects: This product contains substances which are considered or proven to be carcinogenic. The danger may lie in inhalation, skin contact or ingestion.

Reproductive toxicity: This product contains substances which can do damage to reproductive capacity, e.g. damage to germ cells or hormonal regulation. The effects can be: sterility, reduced fertility, menstruation disorders, etc.

Tissue damaging effects: This product contains substances which are corrosive. If vapour or aerosols are inhaled, it can result in damage to lungs, irritation and burns in the respiratory organs as well as coughing. Corrosive substances cause irreversible damage to eyes and acid burns to skin.

Irritation effects: This product contains substances which cause irritation to skin and eyes, or when inhaled. Contact with locally irritative substances can cause the area of contact to be more prone to absorb damaging substances such as allergens.

**4.3. Indication of any immediate medical attention and special treatment needed**

IF exposed or concerned:

Get immediate medical advice/attention.

**Information to medics**

Bring this safety data sheet.

**SECTION 5: Firefighting measures****5.1. Extinguishing media**

Any dry media.

**5.2. Special hazards arising from the substance or mixture**

Dore slag does not cause toxic fumes in a fire.

**5.3. Advice for firefighters**

Wear self-contained breathing apparatus and protective clothing to prevent contact.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Avoid inhalation of vapours from waste material. Avoid direct contact with spilled substances.

Avoid creation of dust. An approved respirator for dust should be worn mask (filter type P2). Keep outsiders out of a release area.

**6.2. Environmental precautions**

Avoid discharge to lakes, streams, sewers, etc. In the event of a leakage to the surroundings, contact the local environmental authorities. Consider putting up waste collecting trays/basins to prevent leakage to the surroundings.

**6.3. Methods and material for containment and cleaning up**

The spilled material should be collected as carefully as possible.

**6.4. Reference to other sections**

See section 13 with regard to the handling of waste. See section 8 for protective measures.

**SECTION 7: Handling and storage**

According to EC-Regulation 1907/2006 (REACH)

### 7.1. Precautions for safe handling

Consider putting up waste collecting trays/basins to prevent leakage to the surroundings. See section 8 for information on personal protection. Avoid direct contact with the product.

Avoid generating dust when handling this material. Do not breathe dust and avoid contact with skin and eyes. If there is lot of dust in air, wear a respirator mask (filter type P2).

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

Always store in containers of the same material as the original.

Store in a covered room which has a solid floor.

#### Storage temperature

No data available.

### 7.3. Specific end use(s)

This product should only be used for applications described in Section 1.2

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### OEL

lead

Long-term exposure limit (8-hour TWA reference period): - ppm | 0,15 mg/m<sup>3</sup>

Comments: Lead and inorganic compounds (as Pb)

Arsenic & compounds, except arsine (as As) as total dust

Long-term exposure limit (8-hour TWA reference period): - ppm | 0,1 mg/m<sup>3</sup>

Antimony & compounds (as Sb) (except stibine)

Long-term exposure limit (8-hour TWA reference period): - ppm | 0,5 mg/m<sup>3</sup>

#### DNEL / PNEC

DNEL (lead): 40 µg/dL blood - Duration: Long term – Systemic effects - Workers - Remarks: Adult neurological function.

DNEL (lead): 10 µg/dL blood - Duration: Long term – Systemic effects - Workers - Remarks: Developmental effect on foetus of pregnant women.

PNEC (lead): 3.1 µg Pb/L (dissolved) - Exposure: Freshwater

PNEC (lead): 3.5 µg Pb/L (dissolved) - Exposure: Marine water

PNEC (lead): 174.0 mg Pb/kg dw - Exposure: Freshwater sediment

PNEC (lead): 41.0 mg Pb/kg dw (bioavailability correction) - Exposure: Freshwater sediment

PNEC (lead): 164.0 mg Pb/kg dw - Exposure: Marine water sediment

PNEC (lead): 212.0 mg Pb/kg dw - Exposure: Soil

PNEC (lead): 0.1 mg Pb/L - Exposure: Sewage Treatment Plant

### 8.2. Exposure controls

Compliance with the stated exposure limits values should be checked on a regular basis.

#### General recommendations

Observe general occupational hygiene.

#### Exposure scenarios

If there is an appendix to this safety data sheet, the indicated exposure scenarios must be complied.

#### Exposure limits

Trade users are covered by the rules of the working environment legislation on maximum concentrations for exposure. See work hygiene threshold values.

#### Appropriate technical measures

Airborne gas and dust concentrations must be kept as low as possible and below the current threshold values. Use for example an exhaust system if the normal air flow in the work room is not sufficient. Make sure that eyewash and emergency showers are clearly marked.

#### Hygiene measures

Whenever you take a break in using this product and when you have finished using it, all exposed areas of the body must be washed. Always wash hands, forearms and face.

#### Measures to avoid environmental exposure

Keep damming materials near the workplace. If possible collect spillage during work.

#### Individual protection measures, such as personal protective equipment

According to EC-Regulation 1907/2006 (REACH)



### Generally

Only CE-marked personal protection equipment should be used.

### Respiratory Equipment

Wear a respirator mask (filter type P2) in dusty jobs.

### Skin protection

When needed use protective clothing.

### Hand protection

Use protective gloves.

### Eye protection

Use protective goggles.

## SECTION 9: Physical and chemical properties

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

Form	Colour	Odour	pH	Viscosity	Density (g/cm <sup>3</sup> )
Solid	-	None	-	-	-

### Phase changes

Melting point (°C)	Boiling point (°C)	Vapour pressure (mm Hg)
1250	-	-

### Data on fire and explosion hazards

Flashpoint (°C)	Ignition (°C)	Self ignition (°C)
-	-	-
Explosion limits (Vol %)	Oxidizing properties	
-	-	

### Solubility

Solubility in water	n-octanol/water coefficient
Insoluble	-

### 9.2. Other information

Solubility in fat	Additional information
-	Relative density: 4000g/dm <sup>3</sup>

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reacts with acid, alkali and oxidizing agents.

### 10.2. Chemical stability

The product is stable under the conditions noted in section 7.

### 10.3. Possibility of hazardous reactions

No special

### 10.4. Conditions to avoid

No special

### 10.5. Incompatible materials

Acids, bases and oxidizing substances.

### 10.6. Hazardous decomposition products

The product is not degraded when used as specified in section 1.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute toxicity

Substance	Species	Test	Route of exposure	Result
No data available.				

#### Skin corrosion/irritation

According to EC-Regulation 1907/2006 (REACH)

Causes severe skin burns and eye damage.

### Serious eye damage/irritation

Causes serious eye damage.

### Respiratory or skin sensitisation

No data available.

### Germ cell mutagenicity

No data available.

### Carcinogenicity

May cause cancer.

### Reproductive toxicity

May damage fertility or the unborn child.

### STOT-single exposure

No data available.

### STOT-repeated exposure

May cause damage to organs.

### Aspiration hazard

No data available.

### Long term effects

Reproductive toxicity: This product contains teratogenic substances which can do long-term damage to human offspring. The effects on the child can be: death, deformity, delayed development, and functional disorders.

Reproductive toxicity: This product contains substances which can do damage to reproductive capacity, e.g. damage to germ cells or hormonal regulation. The effects can be: sterility, reduced fertility, menstruation disorders, etc.

Carcinogenic effects: This product contains substances which are considered or proven to be carcinogenic. The danger may lie in inhalation, skin contact or ingestion.

Tissue damaging effects: This product contains substances which are corrosive. If vapour or aerosols are inhaled, it can result in damage to lungs, irritation and burns in the respiratory organs as well as coughing.

Corrosive substances cause irreversible damage to eyes and acid burns to skin.

Irritation effects: This product contains substances which cause irritation to skin and eyes, or when inhaled.

Contact with locally irritative substances can cause the area of contact to be more prone to absorb damaging substances such as allergens.

## SECTION 12: Ecological information

### 12.1. Toxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Substance	Species	Test	Test duration	Result
lead	Fish: Pimephales promelas, Oncorhynchus mykiss	LC50	96 h	pH 5.5 – 6.5: 40.8 – 810.0 µg Pb/L
lead	Fish: Pimephales promelas, Oncorhynchus mykiss	LC50	96 h	pH > 6.5 – 7.5: 52.0 – 3,598.0 µg Pb/L
lead	Fish: Pimephales promelas, Oncorhynchus mykiss	LC50	96 h	pH > 7.5 – 8.5: 113.8 – 3,249.0 µg Pb/L
lead	Invertebrates: Daphnia magna, Ceriodaphnia dubia	LC50	48 h	pH 5.5 – 6.5: 73.6 – 655.6 µg Pb/L
lead	Invertebrates: Daphnia magna, Ceriodaphnia dubia	LC50	48 h	pH > 6.5 – 7.5: 28.8 – 1,179.6 µg Pb/L
lead	Invertebrates: Daphnia magna, Ceriodaphnia dubia	LC50	48 h	pH > 7.5 – 8.5: 26.4 – 3,115.8 µg Pb/L
lead	Algae: Pseudok. subcapitata, Chlorella kesslerii	ErC50	72 h	pH 5.5 – 6.5: 72.0 – 388.0 µg Pb/L
lead	Algae: Pseudok. subcapitata, Chlorella kesslerii	ErC50	72 h	pH > 6.5 – 7.5: 26.6 – 79.5 µg Pb/L
lead	Algae: Pseudok. subcapitata, Chlorella kesslerii	ErC50	72 h	pH > 7.5 – 8.5: 20.5 – 49.6 µg Pb/L
lead	Freshwater fish (different species)	EC10		17.8 – 1558.6 µg Pb/L
lead	Freshwater invertebrates (different species)	EC10		1.7 – 963.0 µg Pb/L
lead	Freshwater algae (different species)	EC10		6.1 – 190.0 µg Pb/L
lead	Freshwater higher plants: Lemna minor	EC10		85.0 – 1,025.0 µg Pb/L
lead	Marine fish: Cyprinodon variegatus	EC10		229.6 – 437.0 µg Pb/L
lead	Marine invertebrates (different species)	EC10		9.2 – 1409.6 µg Pb/L
lead	Marine algae (different species)	EC10		52.9 – 1234.0 µg Pb/L
lead	Marine higher plants: Champia parvula	EC10		11.9 µg Pb/L
lead	Freshwater sediment invertebrates (diff. species)	EC10		573.0 – 3,390.0 mg Pb/kg dw
lead	Marine sediment invertebrates (diff. species)	EC10		680.0 – 1,291.0 mg Pb/kg dw
lead	Terrestrial invertebrates (different species)	EC10		34.0 – 2,445.0 mg Pb/kg dw
lead	Terrestrial plants (different species)	EC10		57.0 – 6,774.0 mg Pb/kg dw
lead	Micro-organisms (different species)	EC10		97.0 – 7,880.0 mg Pb/kg dw
lead	Bacterial populations	EC10		Resp. 1.06 - 2.92 mg Pb/L
lead	Bacterial populations	EC10		Ammonia uptake 2.79 - 9.59 mg Pb/L
lead	Protozoan community	EC10		Mortality: 1.0 – 7.0 mg Pb/L

### 12.2. Persistence and degradability

According to EC-Regulation 1907/2006 (REACH)

Substance	Biodegradability	Test	Result
<b>12.3. Bioaccumulative potential</b>	Dore slag is chemically insoluble.		
Substance	Potential bioaccumulation	LogPow	BFC
	Does not accumulate.		
<b>12.4. Mobility in soil</b>			
No data available			
<b>12.5. Results of PBT and vPvB assessment</b>	The PBT and vPvB criteria do not apply to inorganic substances.		
<b>12.6. Other adverse effects</b>	This product contains ecotoxic substances which can have damaging effects on water-organisms. This product contains substances which can cause undesirable long-term effects in the water environment, due to its poor biodegradability.		

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

The product is covered by the regulations on dangerous waste. Must be recycled or disposed of as hazardous waste.

#### Waste

EWC code

-

#### Specific labelling

-

#### Contaminated packing

Packaging which contains leftovers from the product must be disposed of in the same way as the product.

## SECTION 14: Transport information

This product is covered by the conventions on dangerous goods.

### 14.1 – 14.4

#### ADR/RID

14.1. UN number	3077
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Dore slag)
14.3. Transport hazard class(es)	9
14.4. Packing group	III
Notes	-
Tunnel restriction code	3-E

#### IMDG

UN-no.	3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Dore slag)
Class	9
PG*	III
EmS	F-A, S-F
MP**	Yes
Hazardous constituent	-

#### IATA/ICAO

UN-no.	
Proper Shipping Name	
Class	
PG*	

### 14.5. Environmental hazards

This product contains substances which can cause undesirable long-term effects in the water environment, due to its poor biodegradability.

### 14.6. Special precautions for user

-

According to EC-Regulation 1907/2006 (REACH)

#### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No data available

(\*) Packing group

(\*\*) Marine pollutant

### SECTION 15: Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

##### Restrictions for application

People under the age of 18 must not be exposed to this product cf. Council Directive 94/33/EC. Only for industrial use. Pregnant and nursing women must not be exposed to the effects of this product. The risk, and possible technical precautions or design of the workplace to avoid such risk, must therefore be evaluated.

##### Demands for specific education

-

##### Additional information

-

##### Sources

EC regulation 1907/2006 (REACH)

Directive 2000/532/EC

EC Regulation 1272/2008 (CLP)

EH40/2005

#### 15.2. Chemical safety assessment

No

### SECTION 16: Other information

#### Full text of H-phrases as mentioned in section 3

H301 - Toxic if swallowed.

H314 - Causes severe skin burns and eye damage.

H332 - Harmful if inhaled.

H350 - May cause cancer.

H360 - May damage fertility or the unborn child.

H373 - May cause damage to organs through prolonged or repeated exposure.

H410 - Very toxic to aquatic life with long lasting effects.

#### The full text of identified uses as mentioned in section 1

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#### Other symbols mentioned in section 2

-

#### Other

It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

A change (in proportion to the last essential change (first cipher in SDS version)) is marked with a blue triangle.

#### Emergency numbers



According to EC-Regulation 1907/2006 (REACH)

Austria: Poison Control Centre Emergency helpline +43 1 406 43 43, 112  
Belgium: 070 - 245 245  
Bulgaria: +359 2 9154 409  
Czech Republic: Toxikologické informační středisko Telefon: +420 224 919 293, +420 224 915 402  
Denmark: Kontakt Giftlinien på tlf.nr.: 82 12 12 12 (åbent 24 timer i døgnet).  
Estonia: 112, 16662, ((+372) 626 93 90)  
Finland: 09-4711/Myrkytystietokeskus tai suora numero 09-471977 Myrkytystietokeskus/HUS, Tukholmankatu 17, 00029 HUS (Helsinki) 112  
France: ORFILA (INRS) : + 33 (0)1 45 42 59 59. 24 heures sur 24 et 7 jours sur 7  
Germany: Giftnotruf Berlin, Emergency telephone: +49 30 19240 (Tag und Nacht)  
Greece: +30 10 779 3777  
Hungary: Telefon: 06-80-20-11-99  
Iceland: Neyðarlínan: Sími 112. Eitrunarmiðstöð Landsspítalans. Sími: 543 2222.  
Ireland: +353 1 8379964  
Italy: Centro antiveleni di Roma - Policlinico Umberto I tel. 06-49978000  
Latvia: +371 704 2468  
Lithuania: Visuomenės sveikatos centrams +370 5 236 20 52 arba +370 687 53378  
Malta: 2425 0000  
Netherlands: 30-2748888  
Norway: Giftinformasjonssentralen på tlf.nr.: 22 59 13 00, 113  
Poland: +48 58301 65 16 / +48 58 349 2831  
Portugal: Em caso de intoxicacao, ligue 808 250 143  
Romania: +40 21 3183606  
Slovakia: +421 2 54 77 4166  
Slovenia: + 386 41 650500  
Spain: Servicio de Información Toxicológica Teléfono: + 34 91 562 04 20 (solo emergencias toxicológicas) Información en español (24h/365 días)  
Sweden: 112, 08-331231 (vardagar kl 9-17)  
United Kingdom: 999 (or 111 for non-emergency medical advice). Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department or the NHS enquiry service)

**Date of last essential change  
(First cipher in SDS version)**

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**Date of last minor change  
(Last cipher in SDS version)**

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