

## SAFETY DATA SHEET

according to 1907/2006/EC, article 31

CB 32 SI, CB 55 SI, CB 60 SI



Revision date: 2016-05-27

Version: 5, revision 4

Replace: 2015-06-01

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

#### 1.1 Product identifier

Product name: CB 32 SI, CB 55 SI, CB 60 SI  
Substance: ALUMINIUM FLAKE POWDER  
Einecs no: 231-072-3  
Cas-no: 7429-90-5  
REACH registration no: 01-2119529243-45-0051

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

Identified uses: Chemical reactant/physical function, coatings, inks, colorants, metallurgical uses, powder metallurgy, tools manufacturing, refractory, powder applications, building and construction products, consumers articles, kitchen utensils, packaging-food and beverages, packaging - non food and beverages.

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

Manufacturer: CARLFORS BRUK AB  
BOX 44  
SE-561 21 HUSKVARNA SWEDEN  
Tel: +46 36389500  
Fax: +46 36141754  
E-mail: cb@carlfors.se

#### 1.4 Emergency telephone number.

Emergency number: +46 8337043

### SECTION 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture:

Classification according to: CLP/GHS EC No 1272/2008.

Flam. Sol. 1. H228

Note T regulation (EC) No 1272/2008: This substance may be marketed in a form which does not have the physical hazards as indicated in the entry in part 3. Tests were done according to Transport of dangerous goods, Manual of tests and criteria.

Additional Information: See section 16.

#### 2.2 Label elements:

Label elements according to Regulation (EC) No 1272/2008 (CLP).

Hazard pictograms: GHS02

## SAFETY DATA SHEET

according to 1907/2006/EC, article 31

CB 32 SI, CB 55 SI, CB 60 SI



Revision date: 2016-05-27

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**Signal word:** Danger

### Hazard Statements:

H228 Flammable solid

### Precautionary statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P240 Ground/bound container and receiving equipment.

P241 Use explosion-proof electrical/ventilation/lighting/ equipment

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P370 + P378 In case of fire: Use sand, mineral wool or special powder for metal fire, never use water, halones, foam or carbon dioxide.

P402 + P404 Store in a dry place. Store in a closed container.

### 2.3 Other hazards:

Dust explosion risk.

## SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

### 3.1 Substances

Chemical name	Cas-no:	Einecs no:	REACH registration no:	Contents %
Aluminium powder	7429-90-5	231-072-3	01-2119529243-45-0051	89-96
<b>GHS/CLP-classification:*</b>	Flam. Sol. 1, H228			

### 3.2 Mixtures

\* See section 16.

## SECTION 4. FIRST-AID MEASURES

### 4.1 Description of first aid measures:

**General information:** No special measures required.

**Inhalation:** Fresh air.

**Skin contact:** Wash with soap and water.

**Eye contact:** Rinse opened eye for several minutes under running water.

**Ingestion:** Rinse the mouth. Call doctor.

**4.2 Most important symptoms and effects, both acute and delayed:** High amounts of aluminium dust can cause coughing and irritation. Additional information under section 11.

**4.3 Indication of any immediate medical attention and special treatment needed:** No special measures required.

## SAFETY DATA SHEET

according to 1907/2006/EC, article 31

CB 32 SI, CB 55 SI, CB 60 SI



Revision date: 2016-05-27

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### SECTION 5. FIRE-FIGHTING MEASURES

#### 5.1 Extinguishing media:

**Suitable extinguishing agents:** Extinguish with dry sand and/or mineral wool, or special powder for metal fires.

**Unsuitable extinguishing agents:** Do NOT use water, foam or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture:** Prevent formation of dust. Contact with water liberates extremely flammable gas (hydrogen).

**5.3 Advice for firefighters:** No special measures required.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures:

Prevent formation of dust and keep away from ignition sources. Wear protective equipment.

#### 6.2 Environmental precautions:

Do not allow product to reach sewage system or water resources.

#### 6.3 Methods and material for containment and cleaning up:

Sweep up and put in a dry receptacle. Dispose of waste material in accordance with local, state or federal regulations. Do not use a vacuum cleaner.

#### 6.4 Reference to other sections:

See section 8 for protective equipment. See section 13 for waste treatment methods.

### SECTION 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling:

Prevent formation of dust. Any deposit of dust which cannot be avoided must be removed regularly. Prevent sparks arising from static electricity. No smoking, fire, sparks or welding. Use explosion proof electric equipment. Water for eye flushing to be available. Contact with water liberates extremely flammable gases.

Wash hands during breaks and at the end of the work. Keep away from foodstuffs, beverages and feed. Do not eat, drink, smoke or sniff while working. Water for eye flushing to be available.

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

Keep container tightly closed and dry. Keep away from sources of ignition-No smoking. Do not store together with alkalis, oxidizing and acidic materials.

#### 7.3 Specific end use(s):

See section 1, identified uses.

### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### 8.1 Control parameters:

DNEL long-term, worker, for aluminium metal powder/dust is 3,72 mg aluminium/m<sup>3</sup>.

PNEC-values from 46-17800 µg/l depending on water chemistry.

**Occupational exposure limits ( limit value - eight hours):**

## SAFETY DATA SHEET

according to 1907/2006/EC, article 31

CB 32 SI, CB 55 SI, CB 60 SI



Revision date: 2016-05-27

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	Aluminium powder
Austria	10 mg/m <sup>3</sup>
Canada - Québec	10 mg/m <sup>3</sup>
Denmark	5 mg/m <sup>3</sup> (inhalable aerosol) 2 mg/m <sup>3</sup> (respirable)
France	10 mg/m <sup>3</sup> (inhalable aerosol) 5 mg/m <sup>3</sup> (respirable aerosol)
Germany	4 mg/m <sup>3</sup> (inhalable aerosol) 1,5 mg/m <sup>3</sup> (respirable aerosol)
Hungary	6 mg/m <sup>3</sup> (respirable aerosol)
Spain	5 mg/m <sup>3</sup> (respirable aerosol) 10 mg/m <sup>3</sup> (inhalable aerosol)
United Kingdom	4 mg/m <sup>3</sup> (respirable aerosol) 10 mg/m <sup>3</sup> (inhalable aerosol)
USA	15 mg/m <sup>3</sup> (total dust) 5 mg/m <sup>3</sup> (respirable dust)

### 8.2 Exposure controls:

**General protective and hygienic measures:** Wash hands during breaks and at the end of the work. Keep away from foodstuffs, beverages and feed. Do not eat, drink, smoke or sniff while working.

#### Personal protective equipment:

**Breathing equipment:** Use suitable breathing protection if workplace concentration requires, filter P1. The European standards EN 136, EN 140, EN 143, EN 149 and EN 405 (Respiratory protective devices) inform about requirements, testing, marking.

**Protection of hands:** Use anti-static and fire resistant protective gloves.

**Eye protection:** Use protective goggles if necessary.

**Skin protection:** Use anti-static and fire resistant protective clothing, EN 531, EN 533, EN 1149-1.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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

Appearance	Powder (fine flakes) gray
Odour	Odourless
Odour threshold	NA
pH	NA
Melting point/freezing point (°C)	660
Initial boiling point/boiling range (°C)	2467
Flash point (°C)	NA
Evaporation rate	NA
Flammability (solid, gas)	Flammable solid.

## SAFETY DATA SHEET

according to 1907/2006/EC, article 31

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Upper/lower flammability/explosive limits	> 30 g/m <sup>3</sup>
Vapour pressure (kPa)	NA
Vapour density (air=1)	NA
Density (g/cm <sup>3</sup> )	0,3-0,6 (Density=volume weight)
Solubility in water (weight-%)	insoluble
Partition coefficient, log Pow	No data
Auto-ignition temperature (°C)	Product is not selfigniting.
Decomposition temperature (°C)	NA
Viscosity	NA
Explosive properties	The product is not hazardous in regard of explosions, however, may form explosive dust/air mixtures.
Oxidising properties	No
9.2 Other information:	No

### SECTION 10. STABILITY AND REACTIVITY

#### 10.1 Reactivity:

Flammable solid.

#### 10.2 Chemical Stability:

The product is stable if used and stored according to the specifications.

#### 10.3 Possibility of hazardous reactions:

Contact with water may release flammable gases (hydrogen). Reacts with acids and alkalis releasing hydrogen.

#### 10.4 Conditions to avoid:

Avoid dust clouds, they may form explosible dust-air-mixture. Risk of dust explosion if enriched with fine dust in presence of air.

#### 10.5 Incompatible material:

Reacts with alkalis, acids, water and oxidizing agents.

#### 10.6 Hazardous decomposition products:

No dangerous decomposition products known.

### SECTION 11. TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects:

Oral LD50 (rat) > 2000 mg/kg bw.

Inhalation LC50 (rat) > 888 mg/m<sup>3</sup>

Inhalation NOAEC (rat) = 10 mg/m<sup>3</sup>

Inhalation: High amounts of aluminium dust can cause coughing and irritation.

Skin contact: No irritant effect.

Eye contact: Causes smart.

## SAFETY DATA SHEET

according to 1907/2006/EC, article 31

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Ingestion: No effects known.

Aluminium powder is not carcinogenic, mutagenic or toxic to reproduction.

### SECTION 12. ECOLOGICAL INFORMATION

#### 12.1 Toxicity:

Aluminium powder is not classified as dangerous for the environment.

#### 12.2 Persistence and degradability:

No further relevant information available.

#### 12.3 Bioaccumulative potential:

No further relevant information available.

#### 12.4 Mobility in soil:

No further relevant information available. See accidental release measures under section 6. Aluminium powder is a solid material and will stay at the source of release. Aluminium is not classified as ecotoxic.

#### 12.5 Results of PBT and vPvB assessments:

NA

#### 12.6 Other adverse effects:

No further relevant information available.

### SECTION 13. DISPOSAL CONSIDERATIONS

#### 13.1 Waste treatment methods:

Dispose of waste material in accordance with local, state or federal regulations. Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

European waste catalogue: 12 01 04 – Non-ferrous metal dust and particles.

Empty contaminated packaging thoroughly. They can be recycled after thorough and proper cleaning.

### SECTION 14. TRANSPORT INFORMATION

	ADR/RID	IATA	IMDG
14.1 UN No	1309	1309	1309
14.3 Transport hazard class(es)	4.1	4.1	4.1
14.4 Packing group	II	II	II
EmS No			F-G, S-G
Tunnel category	E		

#### 14.2 UN proper shipping name:

Aluminium powder, coated

#### 14.5 Environmental hazards: No

#### 14.6 Special precautions for user:

Handling and storage according to section 7.

## SAFETY DATA SHEET

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### 14.7 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code:

NA

## SECTION 15. REGULATORY INFORMATION

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

Reference: EC no. 1907/2006, EC no. 1272/2008/EC, EC no. 453/2010/EC, (EU) 2015/830, IFA-databases on hazardous substances (GESTIS), CSR for aluminium.

15.2 Chemical safety assessment: Yes

## SECTION 16. OTHER INFORMATION

H228 Flammable solid.

Flam. Sol. 1 = Flammable solid, category 1

List of abbreviations

ADR Accord Européen relatif au transport international des marchandises dangereuses par Route.

CAS No. Chemical abstracts service number.

CLP Regulation on Classification, Labelling and packaging of Substances and Mixtures.

CSR Chemical safety report

DNEL Derived NO-Effect Level.

EINECS European Inventory of Existing Commercial Substances.

EWC European Waste Catalogue.

IATA International Air Transport Association

ICAO International Civil Aviation Organization

IMDG International Maritime Dangerous Goods

IMO International Maritime Organization

LC Lethal Concentration

LD Lethal Dose

Marpol International Convention for the Prevention of Pollution from ships.

NOAL No observable adverse effect level.

NOEL/NOEC No observed – effect level/concentration.

PBT Persistent, biaccumulative, toxic.

PNEC Predicted No-Effect Concentration.

REACH Registration, Evaluation, Authorisation, and restriction of Chemicals.

RID Règlement concernant le transport international ferroviaire de marchandises dangereuses.

TWA Time-weighted average.

vPvB Very persistent, very biaccumulative

Revision has been done under following sections 2, 3, 8, 14 and 16. Take the place of 2015-06-01.