SAFETY DATA SHEET

according to 1907/2006/EC, article 31

CB 200S EA 60, CB 400 EA 60, CB 600 EA 60

Revision date: 2023-08-16
Version: 15, revision 14
Replace: 2021-03-08

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

1.1 Product identifier

Product name:	CB 200S EA 60, CB 400 EA 60, CB 600 EA 60
Substance:	ALUMINIUM PASTE IN ETHYL ACETATE
UFI:	YC30-20UV-X008-EHES

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

Identified uses: Pigments

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
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
Stot SE 3. H336
Eye Irrit. 2. H319
EUH066
Note T regulation (EC) No 1272/2008: This product 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, GHS07

Signal word: Danger

Hazard Statements:

H228 Flammable solid.
H319 Cause serious eye irritation.
H336 May cause drowsiness or dizziness.
EUH 066 Repeated exposure may cause skin dryness or cracking.

Precautionary statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P243 Take action to prevent static discharges.
P261 Avoid breathing vapours/spray.
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:

Material can release vapours that readily form flammable mixtures. Vapour accumulation could flash and/or explode if ignited. Vapours are heavier than air and may spread along floors. The product is not classified as dangerous for the environment.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

3.2 Mixtures

Chemical name	Cas-no:	Einecs no:	REACH registration no:	Contents %
Aluminium powder (stabilized)	7429-90-5	231-072-3	01-2119529243-45-0051	58-62
GHS/CLP-classification:*	Flam. Sol. 1, H228. refer to note T in EC 1272/2008. Test method in Transport of dangerous goods, Manual of tests and criteria section 33.4, has been used.			

Chemical name	Cas-no:	Einecs no:	REACH registration no:	Contents %
Ethyl acetate	141-78-6	205-500-4	01-2119475103-46-xxxx	38-42
GHS/CLP-classification:*	Flam. Liq. 2. H225, Eye Irrit. 2. H319, STOT SE 3. H336			

* See section 16.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures:

General information: No additional information available.

Inhalation: Fresh air and rest, possibly breathing help.

Skin contact: Take of contaminated clothes, wash skin with water and soap.

Eye contact: Remove any contact lenses. Rinse immediately with plenty of water, also under the eyelids. Call doctor if irritation persists.

Ingestion: Don't induce vomiting. Call doctor. Rinse mouth with water and drink water.

4.2 Most important symptoms and effects, both acute and delayed: Inhalation of ethyl acetate can cause cough and headache.

4.3 Indication of any immediate medical attention and special treatment needed: No further relevant information available.

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media:

Suitable extinguishing agents: Extinguish fire with sand and mineral wool. Can also be extinguished with foam or carbon dioxide during the first minutes when the solvent in the aluminium paste is burning. After a short time, when the solvent has burned, it is a metal fire, and then only use sand, mineral wool or special powder for metal fires.

Unsuitable extinguishing agents: Do not use water.

5.2 Special hazards arising from the substance or mixture: Material can release vapours that readily form flammable mixtures. Vapour accumulation could flash and/or explode if ignited. Vapours of ethyl acetate are heavier than air and may spread along floors.

5.3 Advice for firefighters: No special measures required.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:
Wear protective equipment. Eliminate fire and explosion risk by keeping ignition sources out of the area.

6.2 Environmental precautions:
Do not allow product to reach sewage system or water resources. Inform authorities in case product reaches water or sewage system.

6.3 Methods and material for containment and cleaning up:
Collect mechanically. Pay attention to the fire, explosion and health hazards caused by the product. Absorb with liquid binding material (sand, diatomite, universal binders, sawdust) and put in a dry receptacle. Do not flush with water or aqueaous cleaning agents. Dispose of waste material in accordance with local, state or federal regulations.

6.4 Reference to other sections:
See section 7 for safe handling. See section 8 for protective equipment. See section 13 for waste treatment methods.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

Good ventilation. Mechanical ventilation and local exhaust can be needed. Keep drums closed as far as possible. Avoid direct contact with aluminium paste. No smoking, fire, sparks or welding. Prevent sparks arising from static electricity.

7.2 Conditions for safe storage, including any incompatibilities:

Store in a cool, well-ventilated, dry place in tightly closed containers. Protect from direct sunlight. Keep away from sources of ignition-No smoking.

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/m3.
PNEC-values from 46-17800 µg/l depending on water chemistry.

DNEL ethyl acetate workers: Chronic effects inhalation 734 mg/m3, 200 ppm
DNEL ethyl acetate workers: Chronic effects skin contact 63 mg/kg
PNEC for ethyl acetate, fresh water: 0,24 mg/l.

Occupational exposure limits (limit value - eight hours):

	Aluminium powder (stabilized)	Ethyl acetate
Austria	10 mg/m3	200 ppm, 8 hours
Canada - Québec	10 mg/m3	
Denmark	5 mg/m3 (inhalable aerosol)	150 ppm, 8 hours
	2 mg/m3 (respirable)	
Finland		200 ppm, 8 hours
France	10 mg/m3 (inhalable aerosol)	
	5 mg/m3 (respirable aerosol)	
Germany	4 mg/m3 (inhalable aerosol)	
	1,5 mg/m3 (respirable aerosol)	200 ppm, 8 hours
Hungary	6 mg/m3 (respirable aerosol)	
Spain	5 mg/m3 (respirable aerosol)	
	10 mg/m3 (inhalable aerosol)	
United Kingdom	4 mg/m3 (respirable aerosol)	200 ppm, 8 hours
	10 mg/m3 (inhalable aerosol)	
USA	15 mg/m3 (total dust)	
	5 mg/m3 (repirable 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: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate, eg. A.

Protection of hands: Protective gloves of nitrile rubber or butyl rubber. Change protective gloves regularly. CEN standards EN 420 and EN 374 provide general requirements and lists of glove types.

Eye protection: Face shield or protective goggles if there is a risk of splashing.

Skin protection: Protective clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

* Refer to ethyl acetate

9.1 Information on basic physical and chemical properties:

Physical state	Paste
Colour	Grey
Odour	* Fruity
Melting point/freezing point (°C)	* -84
Initial boiling point/boiling range (°C)	* 70-78
Flammability (solid, gas)	Flammable solid
Lower and upper explosion limit	* 2,1-11,5 %
Flash point (°C)	* - 4
Auto-ignition temperature (°C)	* 427
pH	NA
Solubility in water (weight-%)	* Slightly soluble
Partition coefficient, log Pow (log value)	* 0,60
Vapour pressure (kPa)	* 10 (20 °C)
Density (g/cm³)	0,8-1,2 (Density = volume weight)
Relative vapour density (air=1)	* 3,04
Particle characteristics	Aluminium paste containing aluminium powder with average diameter between 10-15 micrometers. Measuring instrument Malvern. See technical data sheet for more information.
9.2 Other information:	The product is classified as flammable solid. See section 14 for more information.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity:

Flammable solid.

10.2 Chemical Stability:

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

10.3 Possibility of hazardous reactions:

Hydrogen development with water, alkali and acid.

10.4 Conditions to avoid:

Keep away from sources of ignition and heat.

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 hazard classes as defined in Regulation (EC) No 1272/2008:

Ethyl acetate: Oral LD50 > 4934 mg/kg, rabbit (OECD 401). Dermal LD50 20000 mg/kg, rabbit. Inhalation LCLo > 6000 ppm, rat 6 h.

Aluminium powder: Oral LD50 (rat) > 2000 mg/kg bw. Inhalation LC50 (rat) > 888 mg/m3. Inhalation NOAEC (rat) = 10 mg/m3.

Inhalation may cause pain to nose and throat, cough and headache.

Skin contact: Degreasing, which may cause slight irritation and redness.

Eyes: Causes smart.

Ingestion: May result in vomiting, gastric pain and symptoms like inhalation.
The above symptoms above refer to ethyl acetate, which is a part the aluminum paste.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction): Based on available data the classification criteria are not met.
Respiratory or skin sensitization: Based on available data the classification criteria are not met.
STOT – repeated exposure: Based on available data the classification criteria are not met.
Aspiration hazard: Based on available data the classification criteria are not met.

11.2 Information on other hazards:

No further information.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity:

Aluminium powder and ethyl acetate is not classified as dangerous for the environment.

Ethyl acetate
LC50 fish 96 h: 230 mg / l (Pimephales promelas)
EC50 Daphnia magna 48 h: 610 mg / l
IC50 green algae 48 h: 5600 mg / l (Desmodesmus subspicatus)

The product aluminium paste in ethyl acetate is not classified as dangerous for the environment.

12.2 Persistence and degradability:

Ethyl acetate is readily biodegradable. 79 % (OECD 301 D)

12.3 Bioaccumulative potential:

Ethyl acetate BCF: 30 (3 d)

12.4 Mobility in soil:

Aluminium paste a solid material and is not expected to penetrate into the soil.

12.5 Results of PBT and vPvB assessments:

This product is not, or does not contain, a substance that is a PBT or a vPvB.

12.6 Endocrine disrupting properties:

The product is non-endocrine disrupting.

12.7 Other adverse effects.

No additional 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: 170409 – Metal waste contaminated with dangerous substances.
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	1325	1325	1325
14.3 Transport hazard class(es)	4.1	4.1	4.1
14.4 Packing group	II	II	II
EmS No			F-A, S-G
Tunnel category	E		

14.2 UN proper shipping name:

Flammable solid, organic, n.o.s. (contains ethyl acetate and aluminium powder)

14.5 Environmental hazards: No

14.6 Special precautions for user:

Handling and storage according to section 7.

14.7 Maritime transport in bulk according to IMO instruments:

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, (EU) 2020/878, IFA-databases on hazardous substances (GESTIS), CSR for aluminium and Material safety data sheet for ethyl acetate.

15.2 Chemical safety assessment: No

SECTION 16. OTHER INFORMATION

H225 Highly flammable liquid and vapor.
H228 Flammable solid.
H319 Cause serious eye irritation.
H336 May cause drowsiness or dizziness.
EUH066 Repeated exposer may cause skin dryness or cracking.
Flam. Liq. 2 = Flammable liquid, category 2
Flam. Sol. 1 = Flammable solid, category 1
Eye Irrit. 2 = Serious eye damage/eye irritation, category 2

List of abbreviations
ADR Accord Européen relatief 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 section 1. Take the place of 2021-03-08.