SAFETY DATA SHEET

according to 1907/2006/EC, article 31

Cbright 1002 IPA

Revision date: 2017-11-29
Version: 1

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

1.1 Product identifier

Product name: Cbright 1002 IPA

Substance: ALUMINIUM PASTE IN ISOPROPANOL

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
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
Stot SE 3. H336
Eye Irrit. 2. H319
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.

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 dust/fume/gas/mist/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.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Subtances

3.2 Mixtures

Chemical name	Cas-no:	Einecs no:	REACH registration no:	Contents %
Aluminium powder	7429-90-5	231-072-3	01-2119529243-45-0051	48-52
GHS/CLP-classification:*	Flam. Sol. 1, H228			

Chemical name	Cas-no:	Einecs no:	REACH registration no:	Contents %
Isopropanol	67-63-0	200-661-7	01-2119457558-25-xxxx	48-52
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.

4.2 Most important symptoms and effects, both acute and delayed: Inhalation of isopropanol can cause dizziness, tiredness, nausea and headache.

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

SECTION 5. FIRE-FIGHTING 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 isopropanol 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 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.

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:
Store in a cool, dry place in tightly closed containers. 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 isopropanol. Worker long term dermal 888 mg/kg bodyweigt/day. Worker long term inhalation 500 mg/m3.
PNEC isopropanol. Fresh water and sea water 140,9 mg/l.

Occupational exposure limits (limit value - eight hours):

	Aluminium powder	Isopropanol
Austria	10 mg/m3	200 ppm
Canada - Québec	10 mg/m3	400 ppm
Denmark	5 mg/m3 (inhalable aerosol)	
	2 mg/m3 (respirable)	200 ppm
Finland		200 ppm
France	10 mg/m3 (inhalable aerosol)	200 ppm
	5 mg/m3 (respirable aerosol)	
Germany	4 mg/m3 (inhalable aerosol)	
	1,5 mg/m3 (respirable aerosol)	200 ppm
Hungary	6 mg/m3 (respirable aerosol)	
Spain	5 mg/m3 (respirable aerosol)	200 ppm
	10 mg/m3 (inhalable aerosol)	
United Kingdom	4 mg/m3 (respirable aerosol)	400 ppm
	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. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include: Half-face filter respirator Type A filter material, European Committee for Standardization (CEN) standards EN 136, 140 and 405 provide respirator masks and EN 149 and 143 provide filter recommendations.

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

Eye protection: Protective goggles if there is a risk of splashing.

Skin protection: Protective clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

* Refer to isopropanol

9.1 Information on basic physical and chemical properties:

Appearance	Paste , gray
Odour	* No information
Odour threshold	* No information
pH	NA
Melting point/freezing point (°C)	* No information
Initial boiling point/boiling range (°C)	* 82
Flash point (°C)	* 12
Evaporation rate	* No information
Flammability (solid, gas)	Flammable solid
Upper/lower flammability/explosive limits	* 2-12 %
Vapour pressure (kPa)	* 4,8 (20 °C)
Vapour density (air=1)	* 2
Density (g/cm³)	0,8-1,2 (Density = volume weight)
Solubility in water (weight-%)	* Soluble in water.
Partition coefficient, log Pow	* 0,05 (OECD TG 107)
Auto-ignition temperature (°C)	* 425
Decomposition temperature (°C)	* No information
Viscosity	NA
Explosive properties	No
Oxidising properties	No
9.2 Other information:	No additional 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 toxicological effects:

Isopropanol: LD50 oral (rat): 5840 mg/kg (OECD TG 401). Inhalation LC50 (rat 6 h): 25 mg/l (OECD TG 403). LD50 dermal (rabbit): 13900 mg/kg (OECD TG 402).
Aluminium powder: Oral LD50 (rat) > 2000 mg/kg bw. Inhalation LC50 (rat) > 888 mg/m3. Inhalation NOAEC (rat) = 10 mg/m3.

Inhalation may cause dizziness, tiredness and headache.

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

Eyes: Causes smart.

Ingestion: Large amounts may cause nausea and vomiting.

The above symptoms above refer to isopropanol, which is a part the aluminum paste.

Aluminum powder and isopropanol is not carcinogenic, mutagenic or toxic to reproduction.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity:

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

Isopropanol
LC50 Fish 96h: 9640 mg/l (Pimephales promelas).
LC50 Daphnia magna 24 h: > 9714 mg/l
EC50 algiers 72 h: > 100 mg/l (Scenedesmus subspicatus)

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

12.2 Persistence and degradability:

Isopropanol: 53 % (5 d). Isopropanol is readily biodegradable.

12.3 Bioaccumulative potential:

No information.

12.4 Mobility in soil:

Aluminium paste is 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 Other adverce affects:

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 isopropanol and aluminium powder)

14.5 Environmental hazards: No

14.6 Special precautions for user:

Handling and storage according to section 7.

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 no. 453/2010, (EU) 2015/830, IFA-databases on hazardous substances (GESTIS), CSR for aluminium and Material safety data sheet for isopropanol.

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.
Flam. Liq. 2 = Flammable liquid, category 2
Flam. Sol. 1 = Flammable solid, category 1
STOT SE 3 = Specific organ toxicity – single exposure, category 3

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