

EG-SAFETY DATA SHEET (91/155/EWG)

Product name: „Coollaboratory Liquid Ultra“
Version 1.0 / ENG: 15.01.2010

1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND COMPANY

1.1 Identification of substance/preparation:

„Coollaboratory Liquid Ultra“ metal paste

1.2 Use of substance/preparation:

Thermal compound

1.3 EG-Supplier (Company/Supplier/Dealer):

Coollaboratory
Michael Metzke
39179 Barleben Deutschland
Tel: +49 39203565766
Fax: +49 39203565764
E-Mail: vertrieb@coollaboratory.com

Product support:

Tel: +49 39203565766
E-Mail: support@coollaboratory.com

2. COMPOSITION/INFORMATION ON CONSTITUENTS

2.1 Chemical characterization:

Alloy of the metal components gallium, indium, rhodium, silver, zinc and stannous, bismuth;
suspended in a graphite-copper matrix

Contents materials: GALLIUM CAS-Nr.: 7440-55-3 EG-Nr.: 231-163-8

3. POTENTIAL HAZARDS

3.1 Classification:

No dangerous product in the sense of the guideline 67/548/EWG.

4. FIRST AID MEASURES

4.1 After inhalation:

The inhalation is not a possible way of the exposition.

4.2 After skin contact:

Wash off with plentifully water and soap, remove the contaminated clothes.

4.3 After eye contact:

Rinse out with plentifully lukewarm water with opened eyelid gap.

4.4 After swallowing:

Drink a lot of water immediately. Please consult your physician.

5. FIRE-FIGHTING MEASURING

- 5.1 Suitable fire extinguishing agents:**
Co-ordinate with environment.
- 5.2 Special endangerment by the material or the product, its combustion products or developing gases:**
Not inflammable.

6. MEASURES TO BE TAKEN IN CASE OF UNINTENTIONAL RELEASE

- 6.1 Personal precautionary measures:**
Slip hazard by run out or buried product.
- 6.2 Environmental protection measures:**
Take up the run out product. Supply the product remainders for disposal.
- 6.3 Cleaning methods:**
Large quantities are absorbed (syringe) or up-turned. Remove any product residues by soap solution.
- 6.4 Additional references:**

7. HANDLING AND STORAGE

- 7.1 Handling**
- 7.1.1 References to safe handling:**
Avoid bury and unnecessary contact.
- 7.2 Storage**
Not in glass containers, With solidifying the liquid an enlargement of the volume develops around approx. 0,3%. Plastics (PE, PP) are well suitable as container material

8. EXPOSURE CONTROL AND PERSONAL PROTECTIVE EQUIPMENT

- 8.3 Individual protective equipment**
- 8.3.1 Respiratory protection:**
In occurring oxide smoke use filter P3.
- 8.3.2 Hand protection:**
With full contact:
Glove material: Nitril India rubber
Layer strength: 0,11 mm
Break-through time: > 480 Min.
- 8.3.3 Eye protection:**
Wear protective goggles in case of potential contact with the eyes.
- 8.3.4 Body protection:**
Wear suitable work clothing if there is a risk of splashing.

8.3.5 Data to the industrial hygiene:

Switch contaminated clothes. Wash your hands after work with the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Appearance

Form: Liquid metal alloy
Color: silver
Odor: odorless

9.2 Safety-relevant data

| Art | Wert |
|------------------------------------|--------------------------|
| pH-value (20 °C) | not applicable |
| Melting point (°C) | 8°C |
| Boiling point (°C) | > 1350 °C |
| Inflammability (°C) | not applicable |
| flash point (°C) | not applicable |
| Vapour pressure (°C) | <10-8Torr bei 500 °C |
| Density (g/cm ³) | 6,85g/cm ³ |
| bulk density (kg/m ³) | not applicable |
| Solubility in water (20°C in g/l) | insoluble |
| Solubility in organic solvents | insoluble |
| dynamic viscosity (mPa s/20° C) | 0,0018 |
| lower explosion limit | not applicable |
| upper explosion limit | not applicable |
| Electrically conductivity | 7,28*10 ⁶ S/m |

10. STABILITY AND REACTIVITY

10.1 Conditions to be avoided:

With aluminum and with following addition of water exothermically.

10.2 Substances to be avoided:

Halogeneous one, hydrogen peroxide/hydrogen chloride, chlorine, bromine, aluminum

10.3 Other information:

The product has an alloying effect on metal surfaces, especially light metals. If necessary, the product should be tested under the specific conditions to determine any reactions with materials and chemical substances.

11. TOXICOLOGICAL INFORMATION

11.1 Toxicological examinations

11.1 Acute toxicity:

The metal alloy has not been tested, the single components of the alloy are below the limits of acute toxicity even if a full resorption is assumed.

11.2 Effects at humans:

So far as the generally applicable regulations of industrial hygiene were adhered to, any harmful effect on the health has not become known.

After swallowing: Leaves the body on natural way.

After skin contact: With frequent skin contact skin defatting is possible.
After inhalation: Due to the very low steam pressure not applicably.
After eye contact: Splashes in the eyes may cause irritations.

11.1.3 Further toxicological references:

Dangerous characteristics are not to be excluded, but with adequate use not probably.

11.3 General remarks:

The product is to be handled with the caution usual with chemicals.

12. ECOLOGICAL INFORMATION

12.1 Ecological toxicity:

The product is not miscible with water and shows a tendency toward sedimentation. Quantitative data for the ecological effect of this product are not present.

12.2 Overall evaluation:

In the case of appropriate handling and use no ecological problems are to be expected.

13. DISPOSAL INFORMATION

13.1 Disposal:

Intended use or recycling is to be preferred to the disposal. The product should be disposed according to the locally valid laws on waste disposal and (the competent authorities are responsible to give the necessary information).

13.2 Additional references:

Cleaning agent: diluted, warmed up hydrochloric acid. Soap/water solution for surfaces.

14. TRANSPORT INFORMATION

14.1 Transportation by road/rail (ADR/RID/GGVSE):

Class: 8
Danger note: 8
UN-Nr.: UN 1760
Group of packing: III
Correct technical name: corrosive liquid substance, n.o.s. (Gallium solution)

14.2 Transportation by sea/marine (IMDG-Code/GGVSee):

Class: 8
UN-Nr.: 1760
Group of packing: III
EmS: F-A, S-B
Correct technical name: corrosive liquid substance, n.o.s. (Gallium solution)
Sea pollutant (Marine Pollutant): No sea pollutant

14.3 Transportation by air transport (ICAO-IATA/DGR):

Class: 8
UN-Nr.: 1760
Group of packing: III
Correct technical name: corrosive liquid substance, n.o.s. (Gallium solution)

14.4 Additional references:

The transportation regulations are quoted after the international adjustments and in the form, how they are used in Germany. Possible deviations in other countries are not considered.

15. REGULATORY INFORMATION

The alloy is not dangerous working material in the sense of the guideline 67/548/EWG.

The product is compliant with the guideline 2002/95/EG (RoHS) and does not exceed the predetermined conditions of the guideline 2005/618/EG.

The product is equal to the terms and conditions of the ElektroG- particularly with regard to indexed commodity substance prohibition at the chapter 2,§5 (1).

National regulations:

Water endangerment class: nwg (not hazardous to waters)

16. OTHER DATA

Coollaboratory doesn't assume any responsibility for the incorrect usage of this product and the resulting damages and consequences.

The data rely on the today's conditions of our knowledge and serve to describe the product regarding safety precautions which can be met. They do not represent a warranty of the product described by characteristics.