

SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830 - Austria

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

1.1 Product identifier

Product name : BENDA-LUTZ® 2091
Product code : BL24700
Trade name : BENDA-LUTZ®
Date of issue/ Date of revision : 17 August 2016
Version : 3.04

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

| Identified uses | |
|--|--------|
| Colorant; Printing ink; Printing ink related material; Chemical reagent. | |
| Uses advised against | Reason |
| Not applicable. | |

1.3 Details of the supplier of the safety data sheet

Manufacturer/ Distributor : SunChemical
 Benda-Lutz Werke GmbH
 Ferdinand-Lutz-Strasse 8,
 3134 Nussdorf ob der Traisen, Austria
 +43 2783 6202 0 (0800-1600h)
 Sun Chemical S.A./N.V.
 Performance Pigments
 Parc Industriel de la Noire Epine
 Av. Fleming 2
 1300 Wavre
 Belgium
 T: +45 56 67 75 85

e-mail address of person responsible for this SDS : regulatory.affairs@sunchemical.com

1.4 Emergency telephone number

National advisory body/Poison Center

Telephone number : (43) 1 406 4343 (24hrs)

Supplier

Telephone number : (1)703 527 3887(Chemtrec International-24 hours)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flam. Sol. 1, H228

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : Flammable solid.

Precautionary statements

Prevention : Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Supplemental label elements : Not applicable.

2.3 Other hazards

Other hazards which do not result in classification : Fine dust clouds may form explosive mixtures with air. Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat. May be combustible.

SECTION 3: Composition/information on ingredients

Substance/mixture : Mixture

| Product/ingredient name | Identifiers | % | Classification Regulation (EC) No. 1272/2008 [CLP] | Type |
|--------------------------------|--|----------|--|-------------|
| aluminium powder (stabilised) | EC: 231-072-3 CAS: 7429-90-5 Index: 013-002-00-1 | >80 | Flam. Sol. 1, H228 See Section 16 for the full text of the H statements declared above. | [2] |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

SECTION 3: Composition/information on ingredients

- [1] Substance classified with a health or environmental hazard
 [2] Substance with a workplace exposure limit
 [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
 [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
 [5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General** : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.
- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with room temperature water for at least 15 minutes, keeping eyelids open. In case of accidental eye contact, avoid concurrent exposure to the sun or other sources of UV light which may increase the sensitivity of the eyes.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

There are no data available on the mixture itself. The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes. Fine dust clouds may form explosive mixtures with air.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to medical doctor** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Dry sand or other suitable absorbent. Use special metal fire powder to extinguish. Do not use water.
- Unsuitable extinguishing media** : Do not use water. Carbon dioxide. Foam. Extinguishing media of class A, B, C.

5.2 Special hazards arising from the substance or mixture

SECTION 5: Firefighting measures

Hazards from the substance or mixture : Flammable and explosive hydrogen gas may be produced on contact of the product with water.

Hazardous thermal decomposition products : Fine dust clouds may form explosive mixtures with air.
: Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

5.3 Advice for firefighters

Special protective actions for fire-fighters : Do not release runoff from fire to drains or watercourses.

Special protective equipment for fire-fighters : Appropriate breathing apparatus may be required. Put on appropriate personal protective equipment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Exclude sources of ignition and ventilate the area. Avoid breathing vapor or mist. Refer to protective measures listed in sections 7 and 8.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions : Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

6.3 Methods and materials for containment and cleaning up : Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Preferably clean with a detergent. Avoid using solvents.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in area where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Empty containers retain product residue and can be hazardous. Do not reuse container.

7.2 Conditions for safe storage, including any incompatibilities :

SECTION 7: Handling and storage

Store in accordance with local regulations.

Notes on joint storage

Keep away from: oxidizing agents, strong alkalis, strong acids.

Store away from halogens and halogenated compounds.

Additional information on storage conditions

Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight. Keep away from sources of ignition. No smoking.

Prevent unauthorized access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Keep away from water or moist air.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

| Product/ingredient name | Exposure limit values |
|-------------------------------|---|
| aluminium powder (stabilised) | GKV_MAK (Austria, 12/2011). TWA: 10 mg/m ³ 8 hours. Form: inhalable fraction PEAK: 20 mg/m ³ , 2 times per shift, 60 minutes. Form: inhalable fraction PEAK: 10 mg/m ³ , 2 times per shift, 60 minutes. Form: respirable fraction TWA: 5 mg/m ³ 8 hours. Form: respirable fraction |

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

| Product/ingredient name | Type | Exposure | Value | Population | Effects |
|-------------------------|------|----------|-------|------------|---------|
| No DELs available. | | | | | |

PNECs

| Product/ingredient name | Type | Compartment Detail | Value | Method Detail |
|-------------------------|------|--------------------|-------|---------------|
| No PECs available. | | | | |

8.2 Exposure controls

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls : Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapors below the OEL, suitable respiratory protection must be worn.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Eye/face protection : Safety eyewear should be used when there is a likelihood of exposure.

Skin protection

Hand protection : Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

Gloves : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personnel should wear antistatic clothing made of natural fibers or of high-temperature-resistant synthetic fibers.

Respiratory protection : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators.

Environmental exposure controls : Do not allow to enter drains or watercourses.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|---|---|
| Physical state | : Solid. [Powder.] |
| Color | : Metallic form |
| Odor | : Wax like [Slight] |
| Odor threshold | : Not applicable. |
| Melting point/freezing point | : 660°C |
| Flash point | : Not applicable. |
| VOC | : Not applicable. |
| pH | : Not tested |
| Evaporation rate | : Not tested |
| Upper/lower flammability or explosive limits | : Not tested |
| Vapor pressure | : Not tested |
| Vapor density | : Not tested |
| Relative density | : Not applicable. |
| Solubility(ies) | : Insoluble in the following materials: cold water and hot water. |
| Partition coefficient: n-octanol/ water | : Not applicable. |
| Auto-ignition temperature | : 590°C (1094°F) |
| Decomposition temperature | : Not applicable. |

SECTION 9: Physical and chemical properties

| | |
|-----------------------------|-------------------|
| Viscosity | : Not tested |
| Explosive properties | : Not applicable. |
| Oxidizing properties | : Not applicable. |

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

| | |
|--|--|
| 10.1 Reactivity | : Explosion risk when reacting with: - Water to form hydrogen gas - Oxidizing agents, acids, alkalis, with evolution of heat and hydrogen gas - Sulfur (in reaction with zinc) Violent reactions possible with: - Halogens, halogenated hydrocarbons Formation of toxic compounds: - Nitric acid (in reaction with copper and gold bronze) |
| 10.2 Chemical stability | : Stable under recommended storage and handling conditions (see Section 7). |
| 10.3 Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur. |
| 10.4 Conditions to avoid | : When exposed to high temperatures may produce hazardous decomposition products. Keep away from sources of ignition. Keep away from heat and direct sunlight. Keep away from water or moist air. Avoid dust generation. |
| 10.5 Incompatible materials | : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids. Store away from halogens and halogenated compounds. Keep away from water or moist air. |
| 10.6 Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

SECTION 11: Toxicological information

There are no data available on the mixture itself. The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes. Fine dust clouds may form explosive mixtures with air.

11.1 Information on toxicological effects

Acute toxicity

Not determined - Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Irritation/Corrosion

Not determined - Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Sensitization

Not determined - Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

SECTION 11: Toxicological information

Mutagenicity

Not applicable.

Carcinogenicity

Not applicable.

Reproductive toxicity

Not determined - Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Teratogenicity

Not applicable.

Specific target organ toxicity (single exposure)

Not determined - Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Specific target organ toxicity (repeated exposure)

Not determined - Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Aspiration hazard

Not determined - Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

SECTION 12: Ecological information

There are no data available on the mixture itself.
Do not allow to enter drains or watercourses.

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

12.1 Toxicity

Not available.

12.2 Persistence and degradability

Not available.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

Do not allow to enter drains or watercourses.

Dispose of according to all federal, state and local applicable regulations.

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.

For further information, contact your local waste authority.

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.





Packaging

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

European Waste Catalogue (EWC): : 12 01 04 non-ferrous metal dust and particles

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

| | ADR/RID | ADN | IMDG | IATA |
|---------------------------------|--|--|---|--|
| 14.1 UN number | UN1309 | UN1309 | UN1309 | UN1309 |
| 14.2 UN proper shipping name | ALUMINIUM POWDER, COATED | ALUMINIUM POWDER, COATED | ALUMINIUM POWDER, COATED | ALUMINIUM POWDER, COATED |
| 14.3 Transport hazard class(es) | 4.1  | 4.1  | 4.1  | 4.1  |
| 14.4 Packing group | II | II | II | II |
| 14.5 Environmental hazards | No. | No. | No. | No. |
| Additional information | <u>Tunnel code</u> (E) | - | <u>IMDG Code</u> <u>Segregation group</u> 15 - Powdered metals | - |

14.6 Special precautions for user **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 14: Transport information

14.7 Transport in bulk : Not available.
according to Annex II of
MARPOL and the IBC Code

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions : Not applicable.
on the manufacture,
placing on the market
and use of certain
dangerous substances,
mixtures and articles

Other EU regulations

National regulations

Industrial use : The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

Limitation of the use of organic solvents : Permitted.

International lists:

Canada inventory: All components are listed or exempted.

Australia inventory (AICS): All components are listed or exempted.

China inventory (IECSC): All components are listed or exempted.

Japan inventory (ENCS): Not determined.

Korea inventory: All components are listed or exempted.

New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.

Philippines inventory (PICCS): All components are listed or exempted.

Europe Inventory: Please contact your supplier to get the information.

TSCA 8(b) inventory: : Listed

15.2 Chemical Safety Assessment : This product contains substances for which Chemical Safety Assessments are still to be received.

SECTION 16: Other information

CEPE code : 1

☑ Indicates information that has changed from previously issued version.

SECTION 16: Other information

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

| Classification | Justification |
|--------------------|-----------------------|
| Flam. Sol. 1, H228 | On basis of test data |

Full text of abbreviated H statements : H228 Flammable solid.

Full text of classifications [CLP/GHS] : Flam. Sol. 1, H228 FLAMMABLE SOLIDS - Category 1

Full text of abbreviated R phrases : R11- Highly flammable.

Full text of classifications [DSD/DPD] : F - Highly flammable

Date of printing : 19 September 2016

Date of previous issue : 16 August 2016

Notice to reader

The information in this SDS is based on the present state of our knowledge and on current laws. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. The information in this SDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.

Annex