

SAFETY DATA SHEET

In accordance with 453/2010 and 1272/2008
(All references to EU regulations and directives are abbreviated into only the numeric term)

Issued 11.01.2024

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

1.1. Product identifier

Trade name **DS 400**
Supplier's product number 760400

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

Identified uses Making printed circuit board

1.3. Details of the supplier of the safety data sheet

Company: Bungard Elektronik GmbH & Co. KG
Adress: Rilkestraße 1
D - 51570 Windeck
Tel.: +49/2292/92828-0
Fax: +49/2292/92828-29
E-Mail: info@bungard.de

1.4. Emergency telephone number

Medical Emergency information in case of poisoning: Poison Information Center Mainz – 24h – Phone: +49 6131 19240

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification in accordance with 1272/2008

Upon assessment, this mixture is not classified as hazardous according to 1272/2008.

2.2. Label elements

Label information in accordance with 1272/2008

Hazard pictograms Not applicable
Signal words Not applicable
Hazard statements Not applicable

2.3. Other hazards

Not relevant.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This product is composed of a homogeneous aqueous solution.

3.2. Mixtures

Note that the table shows known hazards of the ingredients in a pure form. These hazards are reduced or eliminated when mixed or diluted, see Section 16d.

Constituent	Classification	Concentration
SODIUM CHLORIDE		
CAS No 7647-14-5 EC No 231-598-3	-	15 - 30%

HYDROCHLORIC ACID		
CAS No 7647-01-0 EC No 231-595-7 Index No 017-002-01-X	Met Corr 1, Skin Corr 1B, STOT SE 3 _{resp} ; H290, H314, H335	< 1%

Sum of max concentrations 100%

Explanations to the classification and labelling of the ingredients are given in Section 16e. Official abbreviations are printed in normal font. Text in italics are specifications and/or complement used in the calculation of the hazards of this mixture, see Section 16b.

Also contains component(s) not necessary to label.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Generally

No special measures are considered to be necessary. If symptoms do occur however, call a doctor/physician.

Upon breathing in

Upon breathing of large amounts of smoke, fog or dust, rinse nose, mouth and throat with water; If symptoms occur, call a doctor/physician.

Upon contact with the eyes

As a precaution, rinse the eye thoroughly with water; If symptoms occur, call a doctor/physician.

Upon skin contact

Normal washing of the skin is considered sufficient; If nevertheless symptoms do occur, contact a physician.

Remove contaminated clothes.

Upon ingestion

No specific action is considered to be needed; As a precaution, induce vomiting and call a doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

Information on symptoms are ambiguous or missing for this product.

4.3. Indication of any immediate medical attention and special treatment needed

Not relevant.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Extinguish with materials intended for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Produces fumes containing harmful gases (carbon monoxide and carbon dioxide) when burning, and, in case of incomplete combustion, aldehydes and other toxic, harmful, irritant or environmentally harmful substances. Produces fumes containing harmful gases (carbon monoxide and carbon dioxide) when burning, and, in case of incomplete combustion, aldehydes and other toxic, harmful, irritant or environmentally harmful substances. The product is not hazardous in the flammable sense.

The product does not oxidise.

5.3. Advice for fire-fighters

In case of fire use a respirator mask.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use suitable allergy-tested protective gloves when cleaning up.

Dust filter IIb (P2) may be required when cleaning up.

Avoid emissions into soil, water or air.

In case of spillage in protected water, call the emergency services immediately, tel. 112 (in Europe).

Do not inhale the product and avoid exposure to skin and eyes.

6.2. Environmental precautions

At amounts considered in this case, the product may be released into the natural environment without serious environmental consequences. Large emissions should however be reported to the emergency services and the Environment Agency.

6.3. Methods and material for containment and cleaning up

Carefully collect the material for combustion waste disposal, then wash the spillage area with water. Avoid stirring the material up so that it aerates.

Contaminated products should be treated as chemical waste and declared as non-hazardous goods.

6.4. Reference to other sections

See section 8 and 13 for personal protection equipment and disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Treat the substance as potentially harmful to health.

Keep out of reach of children and pets.

This product should be stored well out of reach of young children and kept safely apart from products intended for consumption.

Store this product separately from food items and keep it out of the reach of children and pets.

Do not eat, drink or smoke in premises where this product is stored.

7.2. Conditions for safe storage, including any incompatibilities

Do not store above normal room temperature.

Handle in premises which have modern ventilation standards.

Store in a well-ventilated cupboard approved for acids, do not store above eye-level.

Store only in the original package.

7.3. Specific end uses

Not relevant.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1. National limit values, United Kingdom

All ingredients (cf. Section 3) lack occupational exposure limit values.

8.2. Exposure controls

In terms of minimizing risks, attention must be paid to the physical hazards (see Sections 2 and 10) of this product according to EU directives 89/391 and 98/24 and national occupational legislation.

Use protective glasses, safety goggles, or a visor.

Eye protection should be worn if there is any danger of direct exposure or splashing.

Protective gloves are normally not needed due to the properties of this product, but may be necessary for



other reasons, e.g. mechanical risks, temperature conditions or microbiological risks. Very sensitive persons can use gloves labelled "Low Chemical resistant" or "Waterproof" or with the pictogram indicated here.

Protective breathing equipment should only be required in extreme work-situations. Consult the manufacturer if this is the case.

Dust filter IIb (P2) may be required.

For limitation of environmental exposure, see Section 12.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

- | | |
|--------------------|---|
| a) Appearance | Form: liquid
Colour: Transparent/Pale yellow |
| b) Odour | Mildly |
| c) Odour threshold | Not applicable |
| d) pH | 1-4 |

e) Melting point/freezing point	Not applicable
f) Initial boiling point and boiling range	Not applicable
g) Flash point	Not applicable
h) Evaporation rate	Not applicable
i) Flammability (solid, gas)	Not applicable
j) Upper/lower flammability or explosive limits	Not applicable
k) Vapour pressure	Not applicable
l) Vapour density	Not applicable
m) Relative density	1.17-1.19 kg/L
n) Solubility	Solubility in water: Unlimited solubility
o) Partition coefficient: n-octanol/water	Not applicable
p) Auto-ignition temperature	Not applicable
q) Decomposition temperature	Not applicable
r) Viscosity	Not applicable
s) Explosive properties	Not applicable
t) Oxidising properties	Not applicable

9.2. Other information

No data available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

The product contains no substances which can lead to hazardous reactions at normal use.

10.2. Chemical stability

The product is stable at normal storage and handling conditions.

10.3. Possibility of hazardous reactions

Not indicated

10.4. Conditions to avoid

Not indicated

10.5. Incompatible materials

Not indicated

10.6. Hazardous decomposition products

Not indicated

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

General or unspecific toxicity

The product is not classified as toxic.

Acute effects

Not classified as an acutely toxic substance.

Harmfulness

The product is not classified as harmful to health.

Repeated dose toxicity

To the best of our knowledge, no chronic effects have been reported for this product.

Carcinogenicity

To the best of our knowledge, no carcinogenic effects have been reported for this product.

CMR effects

To the best of our knowledge, no mutagenic or otherwise genetic or reproductive toxic effects have been reported for this product.

Sensibilisation

Hypersensitive reactions cannot be ruled out for persons who are overtly sensitive.

Corrosive and irritating effects

The product is not corrosive. Minor irritation cannot be ruled out for persons who are prone/susceptible.

Synergism and antagonism

To the best of our knowledge, no synergistic effects have been reported for this product or any of its ingredients.

Effect on judgement and other psychological effects

To the best of our knowledge this product does not affect discernment if used in the manner intended.

Effect on human microflora

Effects on human micro flora have not been proven, or are negligible.

Relevant toxicological properties**SODIUM CHLORIDE**

LD50 rabbit (Dermally) 24h > 10000 mg/kg dermal

LD50 rat (Orally) 24h = 3000 mg/kg oral

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

SODIUM CHLORIDE

EC50 Freshwater water flea (Daphnia magna) 48 h = 1000 mg/l

LC50 Fish 96h = 17.9 mg/l

HYDROCHLORIC ACID >25%

LC50 Freshwater water flea (Daphnia magna) 48h > 56 mg/L

LC50 mosquitofish (Gambusia affinis) 96h = 232 mg/L

This product consists of easily degradable naturally occurring or nature identical substances, mainly obtained from renewable sources, whereby the global environmental load may be considered to be negligible. In the local environment minor ecological effects may occur in case of large discharge.

12.2. Persistence and degradability

The product degrades in the natural environment.

12.3. Bioaccumulative potential

Neither this product, nor its contents, accumulates in nature.

12.4. Mobility in soil

No information about mobility in the nature exists but there is no reason to suppose the product to be ecologically harmful because of this.

12.5. Results of PBT and vPvB assessment

Not indicated

12.6. Other adverse effects

Not indicated

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste handling for the product

The product is not classified as hazardous waste.

Also take local regulations for dealing with waste into account.

Recycling of the product

This product is not usually recycled.

Transportation of waste

Waste class J(0) - Does not have adverse effects on health or the environment.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number

Not classified as dangerous goods

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Not applicable

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable

SECTION 15: REGULATORY INFORMATION

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

Not applicable.

15.2. Chemical safety assessment

Chemical safety report according to 1907/2006 Annex I is not required for this product.

SECTION 16: OTHER INFORMATION

16a. Indication of where changes have been made to the previous version of the safety data sheet

Revisions of this document

Earlier versions

2011-05-26 The composition of this product was changed

16b. Legend to abbreviations and acronyms used in the safety data sheet

Full texts for Hazard Class and Category Code mentioned in section 3

<i>No phys haz</i>	Non-assigned physical hazard
<i>No tox haz</i>	Not classified as toxic
<i>No environmental hazard</i>	Not classified as being environmentally hazardous
Met Corr 1	May be corrosive to metals (Category 1)
Skin Corr 1B	Corrosive (Category 1B)
STOT SE 3resp	Specific organ toxicity - single exposure; May cause respiratory irritation (Category 3 resp)

Comprehensive definition of the hazards mentioned in Section 2

Non-Flam Liq

Incombustible liquid; conclusive but not sufficient for classification

Explanations of the abbreviations in Section 14

ADR European Agreement concerning the International Transport of Dangerous Goods by Road

RID Regulations concerning the International Transport of Dangerous Goods by Rail

16c. Key literature references and sources for data

Sources for data

Primary data for the calculation of the hazards has preferentially been taken from the official European classification list, 1272/2008 Annex I, as updated to 2015-09-16.

Where such data was lacking, on the second hand the documentation on which this official classification is based was used, e.g. IUCLID (International Uniform Chemical Information Database). On the third hand, information was used from reputable international chemical suppliers, and on the fourth hand from other

available information, e.g. safety data sheets from other suppliers or information from non-profit associations, whereby the reliability of the source was judged by an expert. If, in spite of this, reliable information was not found, the hazards were judged by expert opinions based on the known properties of similar substances, and according to the principles in 1907/2006 and 1272/2008.

Full texts for Regulations mentioned in this Safety Data Sheet

- 453/2010 COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
- 1272/2008 REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
- 89/391 COUNCIL DIRECTIVE (89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work
- 98/24 COUNCIL DIRECTIVE 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC)
- 1907/2006 REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC Annex I

16d. Methods of evaluating information referred to in 1272/2008 Article 9 which was used for the purpose of classification

The calculation of the hazards of this mixture has been performed as an evaluation by applying a weight of evidence determination using expert judgement in accordance with 1272/2008 Annex I, weighing all available information having a bearing on the determination of the hazards of the mixture, and in accordance with 1907/2006 Annex XI.

16e. List of relevant hazard statements and/or precautionary statements

Full texts for hazard statements mentioned in section 3

- H290 May be corrosive to metals
- H314 Causes severe skin burns and eye damage
- H335 May cause respiratory irritation

16f. Advice on any training appropriate for workers to ensure protection of human health and the environment

Warning for misuse

This product is not expected to cause severe harm to humans or the environment. The manufacturer, the distributor or the supplier are not responsible for adverse effects if the product is not handled in accordance with the directions for use.

Other relevant information

Directions for use

Directions for use is distributed with the product

Editorial information