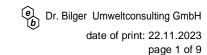
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MATERIAL SAFETY DATA SHEET

product: BINAL®

version: 1.0 /ENG

compliant with regulations Version (EC) No 1907/2006 (REACH)

1. Identification of the substance/preparation and of the company

1.1 Identification of the substance/preparation

Trade name:

SODIUM

REACH registration No.: 01-2119484805-27-0002

1.2 Use of the substance/preparation

1.2.1 Identified use: Chem. production, metallurgy, additive for aluminium casting,

production of Polyamid12, conditioning and etching of fluorinated plastics, dehalogenation and desulfuration of mineral oil, as a

reducing agent for chemical syntheses

1.3 Identification of the company

> supplier /producer/ Dr. Bilger Umweltconsulting GmbH

importer/user/ Gewerbepark Birkenhain 7a

trader D-63579 Freigericht

Telefon: +49-(0)6051-9166951

info@bilgergmbh.de e-Mail

1.4 **Emergency telephone:** Tel.: +49-(0)6051-91669-51

> Note: **This** number is only active during normal opening hours.

Emergency support Information Munich: +49/ (0)89 19240

2. Hazards identification

2.1 Classification:

Regulation (EG) No. 1272/2008,	
Hazard class/- category	Hazard notes
in contact with water releases flammable gases which may ignite spontaneously	H260
Causes severe skin burns and eye damage.	H314

2.2 Additional hazard notes concerning humans and environment:





Signal word: DANGER

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Hazard statements

H260 in contact with water releases flammable gases which may ignite

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spontaneously

H314 Causes severe skin burns and eye damage.

EUH014 reacts violently with water

Precautionary statements:

Precaution

P280 Wear protective gloves/ protective clothing/ eye protection/ face

protection.

Response

P301+P330+P331 IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continuous rinsing.

P370+P378 In case of fire: Use metal fire powder for extinction. NO WATER. P308+P311 IF exposed or concerned: immediately call a POISON CENTER or

doctor/physician.

Storage

P402+P404 Store in a dry place. Store in a closed container

3. Compostion / Information on ingredients

3.1 Information on substance: sodium, chemical element, metal (Na)

CAS-No.: 7440-23-5
Mol. Weight: 22.98 g/mol
EG-Nr.: 213-132-9
EINECS: 231-132-9
Index-No.: 011-001-00-0

Reach registration No.: 01-2119484805-27-0002

Purity: >99.9 %

3.2 Mixture: not applicable:

4. First aid measures



4.1 Description of First aid measures

General information: Remove contaminated clothing immediately. In case of health

Consult a doctor if health problems occur.

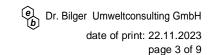
After inhalation: Move immediately to fresh air after inhalation of smoke produced by the

reactions. If unconscious, keep on the side and seek medical advice. Remove to fresh air. Oxygen or artificial respiration if necessary. Call a

doctor immediately.

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After skin contact: Remove metal with spatula and then rinse with plenty of water.

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In case of contact with liquid sodium, remove clothing immediately,

Remove sodium with dry cloth, wash with plenty of water,

consult a doctor.

After eye contact: Immediately remove metal carefully. Remove contact lenses. Then rinse

thoroughly with

Rinse thoroughly with plenty of water until a doctor arrives.

After ingestion: Do NOT induce vomiting. Rinse out mouth. Give plenty of water to drink;

Consult a doctor immediately.

Notes for physician: Medical treatment according to alkali burn.

Show this safety data sheet to the doctor in attendance.

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

Symptoms: Ingestion may cause the following symptoms: Burning, Pain, Diarrhoea,

Vomiting, Decreased blood pressure, Respiratory problems, Symptoms

may be delayed.

Inhalation may cause the following symptoms: Irritating to respiratory

system, altered lung function or difficulty breathing.

Skin contact may cause the following symptoms: Burn

Eye contact may cause the following symptoms: Burn

Health effects from repeated exposure may include: Irritation of the

respiratory system.

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

Treatment: Delayed rupture or constriction of the gastrointestinal tract may occur

after ingestion. Close monitoring is recommended.

5. Fire fighting measures

5.1 Extinguishing Media

Suitable: Dry soda ash, Extinguishing powder class D, dry salt, dry concrete

Unsuitable: Water, CO₂, extinguishing agents class A, B, C, E and foam

5.2 Special hazards arising from substance or mixture

Emits toxic fumes under fire conditions.

Material readily reacts with water generating flammable and/or explosive hydrogen gas and Sodium hydroxide solution

5.3 Advice for firefighters

Special protective equipment:

Wear self-contained breathing apparatus and protective clothing

to prevent contact with skin and eyes.

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6. Accidental Release Measures

6.1 Personal Use personal protective equipment. Avoid dust formation.

precautions: Avoid breathing dust. Ensure adequate ventilation.

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Remove all sources of ignition. Evacuate personnel to safe areas.

6.2 Environmental Prevent further leakage or spillage if safe to do so.

precautions: Do not let product enter drains. Risk of explosions

6.3 Methods and material for containment and clean-up

Cover drains

Pick up mechanically and arrange disposal without creating dust. Do not flush with water. Keep in suitable, closed containers

for disposal.

Dispose of in suitable containers

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. incompatible materials: see section 10.

disposal information: see section 13.

7. <u>Handling and Storage</u>

7.1 Handling Keep workplace dry. Keep substance away from any moisture

Advice on safe handling

Observe label precautions. Keep workplace dry. Keep away from any moisture because substance reacts violently with water to give hydrogen

gas and caustic solution of sodium hydroxide. Mixture of air and hydrogen may explode.

7.2 Storage

Storage dry, NO Sprinkler System,

Requirement: Do not store together with incompatibles such as oxidizing agents, acids,

moisture. Tightly closed.

Recommended storage temperature: Room temperature

8. Exposure Controls / Personal Protection

8.1 Additional advices for design of technical equipment:

provide fire extinguisher metal class D

Risk of corrosion

Exposure limit values: Not applicable

8.2 Exposure controls

Engineering measures

Best available technical measures and appropriate working operations should be realized.

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Personal Protection







General protection avoid any contact with eyes and skin.

No eating, drinking or smoking allowed

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Keep workplace dry

Normally there is no respiration protection necessary. Respiratory

Protection: In exceptional case (at example: accidental release) it is necessary

to wear respiration protection.

Hand Protection: nitrile covered cloves

Protective gloves must comply with the EC Directive 89/686/EEC and the

related standards EN 374. Check density before use.

Recommended for example: Material: NBR (Nitril rubber) > 0.11 mm. Thickness:

• break through time: > 480 Minutes (Permeation level 6)

Take rest periods to regenerate the skin. Preventive skin protection (protective creams/ointments) is recommended.

Eye Protection: splash goggles, in exceptional cases it is necessary

to wear a full length face shield

9. **Physical and Chemical Properties**

9.1 **General Information**

Physical state: solid Colour: silvery Odour: odourless

9.2 Safety related information:

97.8 °C **Melting point** 892 °C **Boiling point** 115 °C Ignition temperature Viscosity (100 °C) 0,68 mPa.s Density (20 °C) 0,97 g/cm³

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10. Stability and Reactifity

10.1 Reactivity see section 10.3

10.2 Chemical stability sensitive to moisture

Conditions to be avoided: High humidity, high temperature

Compounds to be avoided: water, oxidising agent, air, alcohol, acids

10.3 Hazardous decomposition

products:

reacts violently with water to emit flammable gases and

caustic solution of sodium hydroxide.

Mixture of air and hydrogen may explode.

10.4 Additional information in closed and undamaged packaging the BINAL is stable for

product: BINAL®

version: 1.0 /ENG

several years

11. <u>Toxicological Information</u>

11.1 Acute oral toxicity Symptoms: If ingested, severe burns of the mouth and throat,

as well as a danger of perforation

Acute inhalation toxicity Symptoms: mucosal irritations, cough, shortness of breath,

damage of respiratory tract

Acute dermal toxicity Causes burns

Eye irritation Causes serious eye damage

11.2 Additional advice: Overexposure by skin or eye contact include skin burns or

ulceration; eye corrosion with corneal or conjunctive ulceration. By inhalation of fumes the effects include irritation of the upper

respiratory passages with coughing and discomfort. By ingestion, the effects include abdominal discomfort

characterised by nausea, severe pain, diarrhoea and collapse.

12. <u>Ecological Information</u>

General Information: Sodium reacts with humidity to form sodium hydroxide in aqueous

solution. The alkaline characteristics of this solution has to be

regarded.

12.1 Toxicity: No information available.

12.2 Persistence and degradability: No information available.

12.3 Bioaccumulative potential: No information available.

12.4 Mobility in soil: No information available.

12.5 Results of PBT and

PBT/vPvB: Not applicable for inorganic substances.

12.6 Other adverse

effects: Other ecological information

Biological effects:

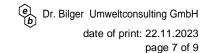
Harmful effect due to pH shift.

Possible decomposition products of possible hydrolysis are:

Sodium hydroxide

Entry into the environment must be avoided.

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13. **Disposal Considerations**

13.1 **Product** Call the supplier for technical advice in the individual case.

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Pick up the material and transfer in dry drum, close tightly and store in UN-x-coded transport drum. Sodium disposal must not be attempted by inexperienced people. Transport to incineration

plant according to ADR-regulation No. 4.3; I

Large quantities collect in steel drum and cover with dry oil.

Small quantities pick up in a small steel bin, let react with Isopropanol, then add water

in small quantities

13.2 **Packaging**

> Steel Packaging clean with isopropanol carefully if necessary and rinse with water

> > before disposal. Do not drain into municipal water system.

Emptied packaging: Household waste or to recycling companies

13.3 Other information The six-digit waste code is used in accordance with AVV

industry-, process-type-, origin- and material-specific,

Dispose of in accordance with federal, state and local regulations.

Observe Waste Directive 2008/98/EC.

14. **Transport Information**

14.1 Rail and Road ADR/RID/GGVSE:







ADR/RID-GGVS/E class: 4.3 (W2) Material that emits flammable gases on contact with

water.

Kemler-Zahl: X423 UN-NO: 1428 **Packaging Group:** П Lable 4.3

1428 Sodium Identification:

Transport category: 1 **Tunnel restriction code:** B/E









IMDG/GGVSea-class: 4.3 UN-NO: 1428 Lable 4.3 **Packaging Group:**

Identification: 1428 SODIUM EMS: F-G S-N

14.3 Air ICAO-TI und IATA-DGR:

ICAO/IATA-class: 4.3 UN/ID-NO: 1428

Packaging Group:

Identification: **1428 SODIUM** IATA (Passenger): Transport forbidden IATA (cargo plane): Transport accepted **UN "Model Regulation ":** UN1428, Sodium, 4.3, I





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15. Regulatory Information

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

product: BINAL®

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EU regulations

Major Accident Hazard

Legislation

SEVESO III

OTHER HAZARDS

01/02

Quantity 1: 100 t: quantity 2: 500 t

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at

Work

Regulation (EC) No 1006/2009 on substance that deplete the ozone layer:

not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Dir. 79/117/EEC:

not regulated

Substances of very high concern (SVHC):

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (EACH), Article 57 above respective regulatory concentration limit of >/= 0.1 % (w/w).

16. Other Information

Full text of H-statements referred to under sections 2 and 3.

Training advice

Provide adequate information, instruction and training operators.

Labelling

Hazard pictograms





Signal word Danger

Hazard statements

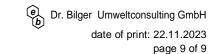
H260 in contact with water releases flammable gases which may ignite spontaneously

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Precautionary statements

Prevention

P280 Wear protective gloves/ protective clothing/ eye protection/ face

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protection.

Response

P301+P330+P331 IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continuous rinsing.

P370+P378 In case of fire: Use metal fire powder for extinction. NO WATER.
P308+P311 IF exposed or concerned: immediately call a POISON CENTER or

doctor/physician.

Storage

P402+P404 Store in a dry place. Store in a closed container

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations. The product must not be used for any purposes other than those specified under heading 1 without first obtaining written handling instructions.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information given on this safety data sheet must be regarded as a description of the safety requirements relating to our product and not a guarantee of its properties

This information is taken from sources based upon data believed to be reliable.

However Dr. Bilger Umweltconsulting GmbH makes no warranty as to the absolute correctness or sufficiency of any of the foregoing or that additional or other measures may not be required under particular conditions.

Local laws and regulations have to be considered by the customer upon own responsibility.