

MATERIAL SAFETY DATA SHEET

compliant with regulations Version (EC) No 1907/2006 (REACH), (EC) No 1272/2008 (CLP)

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

1.1 Identification of the substance/preparation

Trade name:

BINAL®

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/
importer/user/
trader
e-Mail

Dr. Bilger Umweltconsulting GmbH
Gewerbepark Birkenhain 7a
D-63579 Freigericht
Telefon: +49-(0)6051-9166951
info@bilgergmbh.de

- 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**

Hazard statements

H260	in contact with water releases flammable gases which may ignite 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.
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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
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3. Composition / 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.



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



6. Accidental Release Measures

6.1 Personal precautions: Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

6.2 Environmental precautions: Prevent further leakage or spillage if safe to do so. 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. Handling and Storage

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 Requirement: dry, **NO** Sprinkler System,
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.

Personal Protection



General protection avoid any contact with eyes and skin.
No eating, drinking or smoking allowed
Keep workplace dry

Respiratory Protection: Normally there is no respiration protection necessary.
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)
- Thickness: > 0.11 mm.
- 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:

Melting point 97,8 °C
Boiling point 892 °C
Ignition temperature 115 °C
Viscosity (100 °C) 0,68 mPa.s
Density (20 °C) 0,97 g/cm³

10. Stability and Reactivity

- 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 several years
- 11. Toxicological Information**
- 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. Ecological Information

- 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.

13. Disposal Considerations

- 13.1 Product** Call the supplier for technical advice in the individual case.
 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-GGVSE class: 4.3 (W2) Material that emits flammable gases on contact with water.
Kemler-Zahl: X423
UN-NO: 1428
Packaging Group: I
Lable 4.3
Identification: 1428 Sodium
Transport category: 1
Tunnel restriction code: B/E

14.2 Sea IMDG/GGVSea:



IMDG/GGVSea-class: 4.3
UN-NO: 1428
Lable 4.3
Packaging Group: I
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: I
Identification: 1428 SODIUM
IATA (Passenger): Transport forbidden
IATA (cargo plane): Transport accepted
UN "Model Regulation ": UN1428, Sodium, 4.3, I



15. Regulatory Information

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

EU regulations

Major Accident Hazard
Legislation

SEVESO III
OTHER HAZARDS
O1 / O2
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 $\geq 0.1\%$ (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

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H314 Causes severe skin burns and eye damage
EUH014 Reacts violently with water



Precautionary statements

Prevention

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

Response

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Storage

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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.