

SAFETY DATA SHEET

1. IDENTIFICATION

Product name: N-Butyldiethanolamine

CAS No. : 102-79-4

Brand: Macklin

Company: Shanghai Macklin Biochemical Co.,Ltd.

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2. HAZARDS IDENTIFICATION

GHS classification

PHYSICAL HAZARDS

Not classified

HEALTH HAZARDS

Acute toxicity (Oral) Category 5

Skin corrosion/irritation Category 1B

Serious eye damage/eye irritation Category 1

ENVIRONMENTAL HAZARDS

Not classified

GHS label elements, including precautionary statements

Pictograms or hazard symbols

Signal word

Danger

Hazard statements

May be harmful if swallowed

Causes severe skin burns and eye damage

Precautionary statements

[Prevention]

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash hands thoroughly after handling.

Wear protective gloves/eye protection/face protection.

[Response]

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Wash contaminated clothing before reuse.

Immediately call a POISON CENTER or doctor/physician.

[Storage]

Store locked up.

[Disposal]

Dispose of contents/container through a waste management company authorized by

the local government.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture: Substance

Components: N-Butyldiethanolamine

CAS No.: 102-79-4

Chemical Formula: $C_8H_{19}NO_2$

4. FIRST AID MEASURES

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Immediately call a POISON CENTER or doctor/physician.

Skin contact: Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Immediately call a POISON CENTER or doctor/physician.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Ingestion: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting.

Protection of first-aiders: A rescuer should wear personal protective equipment, such as rubber gloves and air-tight goggles.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Dry chemical, foam, water in large amounts, carbon dioxide.

Specific hazards arising: Take care as it may decompose upon combustion or in high temperatures to form the chemical: generate poisonous fume.

Precautions for firefighters: Fire-extinguishing work is done from the windward and the suitable fire-extinguishing

method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Remove movable containers if safe to do so.

Special protective equipment for firefighters: When extinguishing fire, be sure to wear personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, Protective equipment: Use extra personal protective equipment (self-contained breathing apparatus). Keep

protective equipment and people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-

emergency procedures: involved personnel should be controlled around the leakage area by roping off, etc.

Environmental precautions: Prevent product from entering drains.

Methods and materials for containment and cleaning: Absorb spilled material in a suitable absorbent (e.g. rag, dry sand, earth, saw-dust).

In case of large amount of spillage, contain a spill by bunding. Adhered or collected

up: material should be promptly disposed of, in accordance with appropriate laws and regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical measures: Handling is performed in a well ventilated place. Wear suitable protective equipment.

Prevent generation of vapour or mist. Wash hands and face thoroughly after handling.

Use a closed system if possible. Use a ventilation, local exhaust if vapour or aerosol will be generated.

Advice on safe handling: Avoid contact with skin, eyes and clothing.

Conditions for safe storage, including any

Conditions for safe storage, including any incompatibilities

Storage conditions: Keep container tightly closed. Store in a cool and dark place.

Store under inert gas.

Protect from moisture.

Store locked up.

Store away from incompatible materials such as oxidizing agents.

Hygroscopic

Packaging material: Comply with laws.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: Install a closed system or local exhaust. Also install safety shower and eye bath.

Personal protective equipment

Respiratory protection: Half or full facepiece respirator, self-contained breathing apparatus(SCBA), supplied

air respirator, etc. Use respirators approved under appropriate government standards and follow local and national regulations.

Hand protection: Impervious gloves.

Eye protection: Safety goggles. A face-shield, if the situation requires.

Skin and body protection: Impervious protective clothing. Protective boots, if the situation requires.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state (20°C): Liquid

Form: Clear

Colour: Colorless - Slightly pale yellow

Odour: Amine-like

pH: 10.8-11.0 (100g/L H₂O 20°C)

Melting point/freezing point:-70°C

Boiling point/range: 275°C

Flash point: 143°C

Flammability or explosive
limits:

Lower: 1.1%

Upper: 6.5%

Vapour pressure: 0.1kPa/25°C

Vapour density: 5.6

Relative density: 0.97

Solubility(ies):

[Water] Very soluble

[Other solvents] No data available

10. STABILITY AND REACTIVITY

Chemical stability: Stable under proper conditions.

Possibility of hazardous reactions: No special reactivity has been reported.

reactions:

Incompatible materials: Oxidizing agents, Acids

Hazardous decomposition products: Carbon monoxide, Carbon dioxide, Nitrogen oxides (NO_x)

products:

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: orl-rat LD₅₀:4250 mg/kg

Skin corrosion/irritation: No data available

Serious eye damage/irritation: No data available

damage/irritation:

Germ cell mutagenicity: No data available

Carcinogenicity:
IARC = No data available
NTP = No data available
Reproductive toxicity: No data available
RTECS Number: KK0525000

12. ECOLOGICAL INFORMATION

Ecotoxicity:
Fish: No data available
Crustacea: No data available

Algae: No data available
Persistence / degradability: No data available
Bioaccumulative No data available
potential(BCF):
Mobility in soil
Log Pow: No data available
Soil adsorption (Koc): No data available
Henry's Law No data available
constant(PaM3/mol):

13. DISPOSAL CONSIDERATIONS

Recycle to process, if possible. Consult your local regional authorities. You may be able to burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

14. TRANSPORT INFORMATION

Hazards Class: 8: Corrosive.
UN-No: 2735
Proper shipping name: Amines, liquid, corrosive, n.o.s.
Packing group: II

15. REGULATORY INFORMATION

Regulations on the Control over Safety of Dangerous Chemicals (State Council announces on January 26, 2002 and revised on February 16, 2011): Safe use and production, the storage of a dangerous chemical, transport, loading and unloading were prescribed.

16. OTHER INFORMATION

This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.