


| | | |
|---|-----------------------------------|----------------------|
|  | MATERIAL SAFETY DATA SHEET | Issue number:: 01 |
| Name | N,N-Dibutylhydroxylamine | Pages: 1 of 8 |
| <i>Temporary Material Safety Data Sheet For laboratory use only. Not for drug, household or other uses.</i> | | |

1. IDENTIFICATION OF SUBSTANCE / PREPARATION AND IDENTIFICATION OF THE COMPANY

1.1. Identification of substance or preparation:

Chemical name: N,N-dibutylhydroxylamine (DIBHA)

1.2. Application of the substance /preparation:

- Anti-ozonizer and stopper of polymerization used in natural and artificial rubber

1.3. Identification of company:

Manufacturer: DJCHEM CHEMICALS POLAND S.A.
 Surname: Bogdan Domagała
 Address: 05-200 Wołomin, ul. Łukasiewicza 11A, Polska
 Phone/fax.: +48 (022) 787 63 46; +48 (022) 787 63 44
 E-mail: djchem@djchem.com.pl

1.4. Alarm phone:

+48 (022) 787 63 46
+48 602 388 995

1.5. Registration deadline: Sample for laboratory use only.

1.6. Registration number: -

2. IDENTIFICATION OF HAZARDS

Klasyfikacja substancji:

- Irritating product (R43).
- Has very toxic effect on water organisms; may cause long lasting unfavorable changes in water environment (R50/53).

Most important effects of action on man and environment:


Through the respiratory tract: Irritation of the respiratory system, cough, shortness of breath.

Through the alimentary tract:..... Irritation of mucous membranes, throat, the esophagus and the alimentary canal.

Skin contact:..... May cause allergic reactions in contact with skin.

Eye contact:..... May cause eye irritation.

Action on the environment:..... Very toxic to aquatic organisms. May cause long lasting unfavorable changes in water environment.

| | | |
|---|-----------------------------------|----------------------|
|  | MATERIAL SAFETY DATA SHEET | Issue number:: 01 |
| Name | N,N-Dibutylhydroxylamine | Pages: 2 of 8 |
| <i>Temporary Material Safety Data Sheet For laboratory use only. Not for drug, household or other uses.</i> | | |

3. COMPOSITION / INFORMATION ON COMPONENTS

3.1. Dangerous components along with their classification:

| | DIBHA |
|----------------------------------|---|
| Classification | Irritating, hazardous for the environment |
| Symbols | Xi, N |
| R phrases ^{*)} | 22-43-50/53 |
| S Phrases | 60-24-61-37 |
| Concentration,% by weight | 98±2 |
| EINECS No. | 236-473-7 |
| CAS no. | 13393-61-8 |
| Index no. | - |
| Name consistent with UIPAC | N,N- Dibutylhydroxylamine |

^{*)} Full wording of R Phrases is specified in item 16 of the Material Safety Data Sheet.

4. FIRST AID

4.1. General notes:

General means of caution should be adhered to as when handling chemicals.
Remove contaminated clothing. Take the injured out from the place of exposure.

4.2. In contact through the respiratory tract:

Take the sufferer outdoor. When necessary, call for a doctor.

4.3. In contact with skin:

Rinse contaminated skin with plenty of water or water with soap. In the case of irritation, consult a doctor.

4.4. In eye contact:

Immediately rinse with plenty of water for at least 15 minutes with eyelids open widely. Remove contact lenses. When necessary, call for a doctor-ophthalmologist.

4.5. In case of consumption:

Give plenty of water to drink. Induce vomiting. Immediately call a doctor.


4.6. Possible symptoms and effects:

Irritation of eyes, respiratory system and skin.

4.7. Available means in the work environment:

Eyewash apparatus.

Use suitable protective clothing and suitable protective gloves.

| | | |
|---|-----------------------------------|----------------------|
|  | MATERIAL SAFETY DATA SHEET | Issue number:: 01 |
| Name | N,N-Dibutylhydroxylamine | Pages: 3 of 8 |
| <i>Temporary Material Safety Data Sheet For laboratory use only. Not for drug, household or other uses.</i> | | |

5. PROCEDURES IN CASE OF FIRE

5.1. Suitable extinguishing agents:

Sprayed water, carbon dioxide, foam, fire extinguishing powders (ABC, BC).

5.2. Extinguishing agents that may not be used for safety reasons:

Dense water stream.

5.3. Specific hazards:

Combustible substance. Toxic gases are created as a result of burning. There is a risk of ignition of gases and vapors created as a result of fire.

5.4. Special protective equipment for fire-fighters:

Protective clothing resistant to chemicals. Personal respiratory apparatus.

5.5. Additional information:

Do not permit penetration of extinguishing agents to drains, ground and surface water. Isolate contaminated extinguishing water.

6. PROCEDURES IN CASE OF UNINTENDED RELEASE TO THE ENVIRONMENT

6.1. Personal precautions:

Use appropriate personal protection equipment (protective clothing, protective gloves). Avoid contact with skin, eyes and inhalation of dusts. Evacuate excess personnel.

6.2. Safety precautions with regard to environmental protection:

Isolate contaminated area from the environment. Do not release to the environment. Do not permit penetration to the drains, ground and surface water and soil.

Inform respective authorities in case of product release to water, soil or drains.

6.3. Cleaning methods:

Collect scattered material to labeled and locked containers. Clean the base and contaminated objects with a solvent (acetone, toluene, xylene), keeping all due precautions and then with water.

Forward any collected product not suitable for processing to an authorized waste recipient.

7. HANDLING OF SUBSTANCE / PREPARATEM AND ITS STORAGE


7.1. Handling of substance / preparation:

According to application. Avoid contact with skin and eyes. Avoid formation of dusts. Do not eat, drink or smoke when using. Do not keep and do not transport together with food products and animal fodder.

7.2. Storage:

Store in dry and well ventilated rooms. Protect against moisture and warming up to a temperature above 50o C. Keep away from sources of fire. Use means of caution preventing electrostatic discharges.

Appropriate material for packaging: Steel drums 200L .

| | | |
|---|-----------------------------------|----------------------|
|  | MATERIAL SAFETY DATA SHEET | Issue number:: 01 |
| Name | N,N-Dibutylhydroxylamine | Pages: 4 of 8 |
| <i>Temporary Material Safety Data Sheet For laboratory use only. Not for drug, household or other uses.</i> | | |

7.3. Specific applications:

Use typical means of caution when handling chemicals in accordance with approved instructions.

8. EXPOSURE CONTROL AND MEANS OF PERSONAL PROTECTION

8.1. Threshold values of exposure:

| Ingredient | CAS no. | Concentration % by weight | NDS mg/m ³ | NDSch mg/m ³ | NDSP | DSB |
|------------|------------|------------------------------|--------------------------|----------------------------|------|-----|
| DIBHA | 13393-61-8 | 98±2 | - | - | - | - |

8.2. Exposure control:

8.2.1. Exposure control at workplace:

Ensure that there is sufficient general ventilation with exchange of air and / or ventilating hoods in the work area. Avoid contact with skin and eyes. Do not breathe dusts. Ensure a shower and a post for rinsing eyes.

a) Protection of the respiratory system:

In the event of inadequate ventilation, use suitable respiratory protection with filter for absorption of particles.

b) Protection of hands:

Use suitable plastic protective gloves (PVC, rubber).

c) Eye protection:

Use safety glasses (goggles) in the case of dust.

d) Skin protection:

Use natural protective clothing materials (cotton) or synthetic fibers and protective footwear.

e) Hygiene at work:

Do not eat, drink or smoke when working. Replace contaminated clothes. Wash hands and face during breaks at work and after its termination. Avoid contact with the product.

8.2.2. Environment exposure control:


Do not permit to penetrate to the environment.

8.3. Legal basis:

Binding national legal regulations.

8.4. Methods of assessment of exposure in the work environment:

Binding national methods of assessment of exposure.

| | | |
|---|-----------------------------------|----------------------|
|  | MATERIAL SAFETY DATA SHEET | Issue number:: 01 |
| Name | N,N-Dibutylhydroxylamine | Pages: 5 of 8 |
| <i>Temporary Material Safety Data Sheet For laboratory use only. Not for drug, household or other uses.</i> | | |

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. General information:

Form: Solid
 Colour: White
 Smell: Characteristic

9.2. Important information concerning health, safety and the environment:

pH: 10,9
 Boiling point / Boiling range:: 82°C/5 mmHg
 Melting point: 51°C
 Flash point: 71,6°C
 Flammability: Yes
 Explosive properties: No data
 ▪ Upper explosive limit:..... No data
 ▪ Lower explosive limit:..... No data
 Oxidising properties:: No
 Vapour pressure in 25° C: 0,0805 mmHg
 Relative den sity in 20° C: 0,878
 Solubility: Acetone, toluene, xylene
 Solubility in water in 20° C:..... 1,5 g/L
 N-octanol / water breakdown factor: No data
 Viscosity: No data
 Vapor density (air = 1): Non applicable
 Vaporization velocity (diethyl ether = 1): Non applicable

10. STABILITY AND REACTIVITY

The product is stable under specified conditions of storage (item 7 of the Material Safety Data Sheet).

10.1. Conditions to be avoided:

High temperature, moisture, oxygen.

10.2. Factors to be avoided:


Hazardous reactions can occur with strong oxidants.

10.3. Dangerous products of disintegration:

Carbon oxides, nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

The product may cause irritation of the respiratory system, eyes and skin. Cough and shortness of breath may occur. Has harmful effect after consuming.

| | | |
|---|-----------------------------------|----------------------|
|  | MATERIAL SAFETY DATA SHEET | Issue number:: 01 |
| Name | N,N-Dibutylhydroxylamine | Pages: 6 of 8 |
| <i>Temporary Material Safety Data Sheet For laboratory use only. Not for drug, household or other uses.</i> | | |

11.1. Health effects of acute exposure:

| Ingredient | Nr CAS | Dose | Value | Unit |
|------------|--------|------------------------------------|---------|---------|
| DIBHA | - | LD ₅₀ (orally, rat) | No data | No data |
| | | LD ₅₀ (skin, rabbit) | No data | No data |
| | | LC ₅₀ (inhalation, rat) | No data | No data |

Through the respiratory system:..... Irritation of the respiratory system, cough, shortness of breath.

Through the alimentary tract:..... Irritation of mucous membranes, throat, the esophagus and the alimentary canal.

Skin contact:..... May cause skin chafes.

Eye contact:..... May cause eye irritation.

11.2. Health effects of chronic exposure:

Through the respiratory system (toxicity of repeating dose): No data.

Through the alimentary tract:..... No data.

Skin contact:..... No data

Irritating effect (on eyes, skin or the respiratory system):..... No data.

Caustic effect:..... No data.

Allergenic effect (on the skin, the respiratory system):..... May cause allergic reactions in contact with skin.

Anesthetizing effect:..... No data.

Carcinogenic effect: No data.

Mutagenic effect: No data.

Effect on reproduction capacity:..... No data.

Toxicokinetics, metabolism and placement:..... No data.

12. ECOLOGICAL INFORMATION

Do not permit to penetrate to waters, drains and soil.

12.1. Ecotoxicity (6PPD):

LC₅₀ (fish, 96 hours):No data

12.2. Mobility:

No data.

12.3. Stability and capacity of decomposition:

No data.


12.4. Biocumulation capacity:

Octanol-water breakdown factor (KOW): No data

Bioconcentration factor (BCF): No data

12.5. Results of assessment of PBT property:

No data.

| | | |
|---|-----------------------------------|----------------------|
|  | MATERIAL SAFETY DATA SHEET | Issue number:: 01 |
| Name | N,N-Dibutylhydroxylamine | Pages: 7 of 8 |
| <i>Temporary Material Safety Data Sheet For laboratory use only. Not for drug, household or other uses.</i> | | |

12.6. Other harmful effects:

Very toxic to aquatic organisms and the water environment.

13. WASTE HANDLING

13.1. Methods of removing the substance:

Do not dispose of the substance together with municipal waste. Do not permit contamination of ground and surface water. Destroy in adapted waste incinerating plants.

13.2. Methods of removing packaging contaminated with the substance:

Contaminated packaging to be treated as the product itself. Thoroughly rinse any packaging not fit for re-use with water and destroy in adapted plants.

13.3. Legal basis:

Binding national legal regulations.

14. INFORMATION ABOUT TRANSPORT

14.1. Road transport, railway and inland water transport (ADR / RID/ADNR/ADN):


UN Number: 3077
 Class: 9
 Stickers: 9
 Proper transport name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, I.N.O. (N,N-Dibutylhydroxylamine)
 Packaging group: III
 Classification code: M7
 Hazard distinctive identification number: 90

14.2. Sea transport (IMDG):

UN Number: 3077
 Proper transport name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, I.N.O. (N,N-Dibutylhydroxylamine)
 Class: 9
 Packaging group: III
 EMS/MFAG: F-A S-F
 Contaminates marine environment: Yes

14.3. Air transport (ICAO/IATA):

UN Number: 3077
 Proper transport name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, I.N.O. (N,N-Dibutylhydroxylamine)
 Class: 9
 Packaging group: III

| | | |
|---|-----------------------------------|----------------------|
|  | MATERIAL SAFETY DATA SHEET | Issue number:: 01 |
| Name | N,N-Dibutylhydroxylamine | Pages: 8 of 8 |
| <i>Temporary Material Safety Data Sheet For laboratory use only. Not for drug, household or other uses.</i> | | |

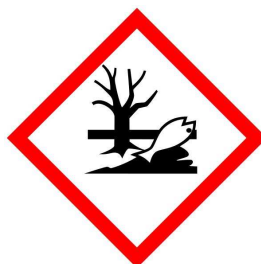
15. INFORMATION REGARDING LEGAL REGULATIONS

15.1. Marking:

Chemical name:

N,N-Dibutylhydroxylamine

Warning signs:



Phrases indicating type of hazard:

R22 Has harmful effect after ingestion

R43 May cause sensitization by skin contact.

R50/53 Has very toxic effect on water organisms; may cause long lasting unfavorable changes in water environment.

Phrases determining conditions of safe use:

S24 Avoid contamination of skin.

S37 Wear suitable protection gloves.

S60 Remove the product and packaging as hazardous waste.

Name, address and telephone number of the supplier:

DJCHEM CHEMICALS POLAND S.A.
 05-200 Wołomin, ul. Łukasiewicza 11A, Poland
 +48 (022) 787 63 46; +48 (022) 787 63 44