

## SAFETY DATA SHEET

SDS: A6143-0000\_E001

Date Prepared: 2017/09/05

Date Revised: 2023/01/10

Product Name: **AMINOALCOHOL 2B**

## 1. Identification of the substance/mixture and of the company/undertaking

Product name: AMINOALCOHOL 2B  
 Identification of the supplier: Nippon Nyukazai Co., Ltd.  
 Address: No.4-1.Nihonbashi Kobuna-cho, Chuo-ku, Tokyo 103-0024, Japan  
 Charge section: Business Operation Department  
 (TEL:+81-3-5651-5640,FAX:+81-3-5651-5646)  
 Emergency telephone number: Business Operation Department  
 (TEL:+81-3-5651-5640,FAX:+81-3-5651-5646)  
 Recommend use: anti-rust , Neutralizer , intermediate raw materials  
 Restrictions on use: Seek expert judgment when using for purposes other than those recommended.

## 2. Hazards identification

### Hazard category

Flammable liquids	Category 4
Acute toxicity (oral)	Category 4
Acute toxicity (dermal)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Specific target organ systemic toxicity following single exposure	Category 2
Specific target organ systemic toxicity following single exposure	Category 3
Specific target organ systemic toxicity following repeated exposure	Category 1
Specific target organ systemic toxicity following repeated exposure	Category 2
Acute hazards to the aquatic environment	Category 3
Chronic hazards to the aquatic environment	Category 3

### Label elements

Hazard pictograms:



Signal word:

Danger

Hazard statements:

H227 Combustible liquid  
 H302 Harmful if swallowed.  
 H312 Harmful in contact with skin.  
 H315 Causes skin irritation.  
 H319 Causes serious eye irritation.

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H371 May cause damage to organs (nervous system).  
 H335+H336 May cause respiratory irritation, or May cause drowsiness or dizziness.  
 H372 Causes damage to organs (respiratory apparatus) through prolonged or repeated exposure.  
 H373 May cause damage to organs (central nerve system) through prolonged or repeated exposure.  
 H402 Harmful to aquatic life  
 H412 Harmful to aquatic life with long lasting effects.

**Precautionary statements:**

**Prevention** P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 P264 Wash hands and face thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P271 Use only outdoors or in a well-ventilated area.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response** P312 Call a POISON CENTRE/doctor/healthcare professionals under the supervision of a doctor if you feel unwell.  
 P314 Get medical advice/attention if you feel unwell.  
 P330 Rinse mouth.  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
 P301+P312 IF SWALLOWED: Call a POISON CENTRE/doctor/healthcare professionals under the supervision of a doctor if you feel unwell.  
 P302+P352 IF ON SKIN: Wash with plenty of water/or shower.  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor/healthcare professionals under the supervision of a doctor.  
 P332+P313 If skin irritation occurs: Get medical advice/attention.  
 P337+P313 If eye irritation persists: Get medical advice/attention.  
 P370+P378 In case of fire : Use appropriate extinguishing media for extinction.

**Storage** P403 Store in a well ventilated place.  
 P405 Store locked up.  
 P403+P233 Store in a well ventilated place. Keep container tightly closed.

**Disposal** P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

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### 3. Composition/information on ingredients

#### 3.1. Substances

##### Ingredients and Concentration

Ingredient Name	Concentration wt. %	CAS RN®	Existing and New Chemical Substances (JAPAN)	Industrial Safety and Health Law Substances (JAPAN)	Industrial Safety and Health Law (JAPAN)	Pollutant Release Transfer Register Law (JAPAN)	Poisonous and Deleterious Substances Control Act (JAPAN)
			Gazette notice reference number	Gazette notice reference number	Notifiable Substances	Specified Substances	Poisonous and Deleterious Substances
2-(Di-n-butylamino)ethanol	99-100	102-81-8	2-353	Public	Applicable	Not applicable	Not applicable

#### 3.2. Mixtures

Not Applicable

### 4. First aid measures

Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is stopped, lie on your back and perform cardiopulmonary respiration. Get medical advice/attention.
Skin contact:	Take off contaminated clothing and wash before reuse. Wash with plenty of soap and water. If skin irritation or a rash occurs: Get medical advice/attention.
Eye contact:	Immediately flush eye with plenty of clean water for at least 15 minutes. (If easy to do, remove contact lenses, if worn.) Get medical attention immediately.
Ingestion:	After having swallowed it, Drink a large quantity of water when consciousness becomes clear and receive treatment for the doctor immediately. A mouth must not give a person without the consciousness a thing.
Protection for first aid person:	The rescuer wears a tool for appropriate protection depending on the situation.

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### 5. Firefighting measures

Suitable extinguishing media:	Use water spray(fog), foam, dry chemical or CO2.
Extinguishing media to avoid:	Straight stream water.
Specific hazards arising from the chemical:	At the time of fire, hazardous gases (carbon monoxide,NOx and others) can be generated.
Fire fighting:	Keep upwind of fire. Eliminate all ignition sources if safe to do so. In case of fire in the surroundings, move the content/container to the safety place. If it is not possible to move, cool the content/container with water spray.
Special protective equipment and precautions for fire fighters:	Gloves, protection glasses, wear fire,flame resistant,retardant clothing, air respiratory organs wear a tool for appropriate protection.

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### 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Promptly remove possible ignition sources from the vicinity. Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.
Environmental precautions:	To environment (area of the sea, the soil) must not release it.
Methods and materials for containment and cleaning up:	Absorb this product with inactive materials (example: dry sand, earth) and recover it into a waste material container. In the case of large amount, stop leakage with earth/sand to begin with, and, then, recover it. In the case of a small quantity, I adsorb it in the earth and sand, a waste and collect it in empty container which I can seal up after having removed it.

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### 7. Handling and storage

Handling	
Technical measures:	During handling, be sure to wear proper protective equipment (refer to the section 8). This product can be charged with static electricity. Take countermeasures for static electricity removal (grounding, others). Wear antistatic clothes and antistatic shoes to prevent human body electrification. Use explosion-proof electrical/ventilating/lighting equipment.
Ventilation requirements:	Use the ventilation equipment described in Section 8.
Precautions for safe handling:	Not especially.

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### Storage

Storage conditions: Store the containers avoiding direct sunlight. Store in less than 40°C in a well-ventilated room.

Safety adequate container materials: Use the container specified by the Fire Service ACT and the United Nations Transport Regulations.

## 8. Exposure controls/personal protection

Appropriate engineering controls: Use local ventilation equipment.  
Install eye and body washing facilities near the handling place.  
Display the position of equipment clearly.

### Control parameters

Ingredient Name	Industrial Safety and Health Law (JAPAN)	Japan Society for Occupational Health	ACGIH-TLV	
	Administrative Control Levels	Occupational Exposure Limits	TWA	STEL
2-(Di-n-butylamino)ethanol	Not established	Not established	0.5ppm Skin, -mg/m <sup>3</sup>	Not established

### Personal protective equipment

Respiratory protection: Use a gas mask for organic gases, air-supplied respirator, self-contained compressed air breathing apparatus on the situation.

Hand protection: Organic solvent impermeable protective gloves (Antistatic ones are desirable.)

Eye/face protection: Protective glasses, goggle, protective face shield.

Skin/body protection: Wear long-sleeved working clothes and protective shoes. (Antistatic ones are desirable.)  
Use an oiliness apron-resistant, boots depending on the situation.

Hygiene measures: Wash with soap and water after handling.

## 9. Physical and chemical properties

### Product

Form: Liquid (20°C)

Color: Colorless transparent

Odor: Ammonia odor

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Melting point/freezing point:	-75(°C)
Initial boiling point and boiling range:	228(°C)
Flammability (solid, gas):	No data
Upper/lower flammability or explosive limits:	No data
Flash point:	104(°C)
Auto-ignition temperature:	165(°C)
Decomposition temperature:	No data
pH:	No data
Kinematic viscosity:	No data
Solubility:	water : 0.4(%)
Partition coefficient: n-octanol/water:	No data
Vapour pressure:	5.3(Pa)(20°C)
Specific Gravity:	0.861(20°C)
Vapour density:	No data
Particle characteristics:	No data

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### 10. Stability and reactivity

Chemical stability:	Stable under normal temperatures and pressures.
Possibility of hazardous reactions:	It may react with the oxidizing agent and generate heat.
Conditions to avoid:	Avoid heat, flames, sparks and ignition sources.
Incompatible materials:	Acid, Oxidizing agents.
Hazardous decomposition products:	No data available

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### 11. Toxicological information

Product	
Acute toxicity (oral):	Category 4
Acute toxicity (dermal):	Category 4
Acute toxicity (inhalation):	Exempt classification (Gas) Classification not possible (Vapour) Classification not possible (Dust/Mist)
Skin corrosion/irritation:	Category 2
Serious eye damage/irritation:	Category 2
Respiratory sensitization:	Classification not possible

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Skin sensitization:	Classification not possible
Mutagenicity:	Classification not possible
Carcinogenicity:	Classification not possible
Reproductive toxicity:	Classification not possible
Target organ effect/Single exposure:	Category 2(nervous system) Category 3(respiratory tract irritation)
Target organ effect/Multi exposure:	Category 1(respiratory apparatus) Category 2(central nerve system)
Respiratory toxic:	Classification not possible

### Ingredient

2-(Di-n-butylamino)ethanol

Acute toxicity (oral):	Category 4 LD50: 1070-1780 mg/kg[rat]
Acute toxicity (dermal):	Category 4 LD50: 1440-1445 mg/kg[rabbit]
Acute toxicity (inhalation):	Exempt classification (Gas) Classification not possible (Vapour) Classification not possible (Dust/Mist) Effect on animals : No data
Skin corrosion/irritation:	Category 2 Effect on animals : In a test in which occlusion was applied to rabbits for 1 minute, 5 minutes, and 20 hours, necrosis was observed after 20 hours, and it was determined to be corrosive (REACH Registration Information (Access on July 2019)). It has been reported to be corrosive in a test in which 0.01 mL was applied to rabbits for 24 hours (NITE Initial Risk Assessment Report (2007)). When applied to rabbit skin, this substance causes necrosis within 24 hours. In addition, corneal necrosis occurs when instilled (ACGIH (7th, 2001)). Based on the above, it was classified as Category 2.
Serious eye damage/irritation:	Category 2 Effect on animals : In an ocular irritation test in which 50 µL was administered to rabbits, the average scores of corneal, iris, conjunctival redness, and chemosis at 24/48/72 hours were 1.35, 0.3, 2.65, and 1.65, which were irritating. (REACH registration information (Access on July 2019)). In an ocular irritation test in which 50 µL was administered to rabbits, the average scores of cornea, iris, conjunctival redness, and chemosis at 24/48/72 hours were 1, 0.25, 1.25, and 0.25. Determined to be irritating (REACH Registration Information (Access on July 2019)). Based on the above, it was classified as Category 2.

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Respiratory sensitization:	Classification not possible Effect on person : Classification not possible due to lack of data.
Skin sensitization:	Classification not possible Effect on person : Classification not possible due to lack of data.
Mutagenicity:	Classification not possible In vivo, there are negative reports in the micronucleus test of mouse bone marrow cells (Ministry of the Environment Risk Assessment Volume 15 (2017), Ministry of Health, Labor and Welfare Existing Chemical Toxicity Database (Access on June 2019)). In vitro, there are negative reports in the gene mutation test of cultured mammalian cells and the return mutation test of bacteria (ACGIH (7th, 2001), Ministry of the Environment Risk Assessment Vol. 15 (2017), Ministry of Health, Labor and Welfare). Existing chemical toxicity database (Access on June 2019), NTP DB (Access on June 2019)). There are negative and positive reports of chromosomal aberration tests in cultured mammalian cells (Ministry of the Environment Risk Assessment Volume 15 (2017)). Based on the above, positive findings were found in the in vitro chromosomal aberration test, but negative in the in vivo micronucleus test, so it is not possible to classify in the guidance based on expert judgment, and it does not fall under the category.
Carcinogenicity:	Classification not possible Classification not possible due to lack of data.



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## Reproductive toxicity:

Classification not possible

In a simple reproductive toxicity test by oral route using rats, neurological symptoms (transient salivation, restlessness, decreased locomotor activity, cage licking, chewing-like behavior, tremor, clonic convulsions, tonicity) were observed in the parent animal. Sexual convulsions, vocalization) and death were observed, but no effects on fertility and child development were observed (Ministry of Health, Labor and Welfare Existing Chemical Toxicity Database (Access on June 2019), Ministry of the Environment Risk Assessment Vol. 15 (Ministry of Health, Labor and Welfare) 2017)). In a reproductive toxicity test in which male rats were exposed to inhalation for 28 days before mating and females for 50 days from pre-mating to 4 days after feeding, parent animals showed degeneration of the nasal epithelium, but the reproductive effect was Not seen (Ministry of the Environment Risk Assessment Vol. 15 (2017)).

Based on the above, no reproductive effects were observed, but it was not possible to classify due to lack of data due to lack of data from developmental toxicity tests.

## Target organ effect/Single exposure: Category 2(nervous system)

Category 3(respiratory tract irritation)

It has been reported that single oral or intraperitoneal administration of this substance causes convulsions and neuromuscular blockade in rats, resulting in respiratory arrest (ACGIH (7th, 2001)). There is a description that this substance is a moderate cholinesterase inhibitor (ACGIH (7th, 2001)). The oral LD50 value of this substance in rats has been reported to be 1,070 mg / kg or 1,780 mg / kg (ACGIH (7th, 2001), NITE Initial Risk Assessment Report (2007)). In a test in which rats were exposed to the vapor of this substance by inhalation for 6 hours / day for 5 days, it was reported that nasal irritation (rubbing of the nose) was observed in the exposure group of 33 ppm or more. (NITE Initial Risk Assessment Report (2007)). Although it is a repeated exposure test, nasal irritation may have been seen from the first exposure. ACGIH (7th, 2001) also cites the same test results and is considered to show airway irritation because it is the basis for the nasal irritation of this substance.

Therefore, it was classified as Category 2 (nervous system) and Category 3 (airway irritation)

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Target organ effect/Multi exposure: Category 1(respiratory apparatus)  
 Category 2(central nerve system)

As a result of forced oral administration of 10 to 250 mg / kg / day to rats for 29 days including the mating period from 14 days before mating for males and up to 3 days for females, 250 mg / kg / day (90-day conversion) : 81 mg / kg / day, category 2) disturbing in males and females, mild hypomotility, cage licking and chewing-like movements, clonic convulsions, etc., tremor in females, tonic convulsions, continuous vocalization, Deaths (1 case) were observed (Ministry of Health, Labor and Welfare Existing Chemical Toxicity Database (Access on June 2019), Ministry of the Environment Risk Assessment Volume 15 (2017)). As a result of forced oral administration of 25 to 400 mg / kg / day to rats for 28 days, the number of rises increased above 100 mg / kg / day (90-day conversion: 31 mg / kg / day, range of Category 2). Death (3 males, 5 females), convulsions, spasms, tremors, abnormal vocalization, paleness, pant breathing, breathing at 400 mg / kg / day (90 days equivalent: 122 mg / kg / day, over 2 categories) There was a decrease in the number, a prone position, and an increase in the number of position movements (same as above). Larynx as a result of inhalation exposure of 20.6 to 236.3 mg / m<sup>3</sup> (guidance value conversion: 0.006 to 0.02 mg / L, range of Category 1) to rats for 28 days before mating for males and 50 days until 4 days for breastfeeding. Epithelial degeneration, transitional epithelium of the nasal cavity, respiratory epithelium, olfactory epithelium degeneration / regeneration, epididymis, epididymal weight loss, seminiferous tubule degeneration, etc. were observed. Of these, the transitional epithelium of the nasal cavity and the degeneration of the respiratory epithelium are considered to be toxic changes, and the effect on the testis is judged to be due to stress (Ministry of the Environment Risk Assessment Vol. 15 (2017)).

Based on the above, it was classified into Category 1 (respiratory system) and Category 2 (central nervous system).

Respiratory toxic: Classification not possible  
 Effect on person : Classification not possible due to lack of data.

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### 12. Ecological information

#### Product

Ecotoxicity	
Acute toxicity:	Category 3
Chronic toxicity:	Category 3
Persistence and degradability :	No information.
Bioaccumulative potential :	No information.
Mobility in soil:	No information.
Hazardous to the ozone layer:	Classification not possible
Other impact :	No information.

#### Ingredient

2-(Di-n-butylamino)ethanol

Ecotoxicity	
Acute toxicity:	Category 3
Fish:	96hrLC50: 29 mg/L[Oryzias latipes]
Daphnia:	No data
Algae:	72hrErC50: 20.3 mg/L[]
Chronic toxicity:	Category 3
Fish:	No data
Daphnia:	No data
Algae:	72hrNOEC: 3.09 mg/L[]
Persistence and degradability :	Not rapidly biodegradable
Bioaccumulative potential :	Low bioconcentration
Hazardous to the ozone layer:	Classification not possible

### 13. Disposal considerations

Disposal methods: When waste materials and waste water are to be treated, collect them into specified containers and entrust the disposal to a disposal contractor having an industrial waste disposal contractor permit.

Do not use the used containers for other purposes like filling other substances. Be sure to dispose of them after treating the content according to the above description. In case of recycling the container, return the container as it is after fitting a stopper without filling anything into it.

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**14. Transport information**

International classification regulations	UN number :	6.1 2873
Proper shipping name :	N,N-Di-n-BUTYLAMINOETHANOL	
Packing		III
Domestic restriction:	Transport the material in accordance with the regulations in your country or region.	
Specific security precaution and condition of transportation:	Load the containers in such a way as not to wet with water, fall down, tumble, or being damaged. Cover the loaded cargo to prevent direct sunlight.	
Emergency Response Guide (ERG) Numbers:		153

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**15. Regulatory information**

Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

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**16. Other information**

Reference	Information obtained in NITE (National Institute of Technology and Evaluation) and other literature surveys.
Disclaimer	About the description: This SDS was created in accordance with JIS Z 7253 based on the materials and data available at the time of creation. Detailed information such as composition and ingredients corresponding to overseas legal regulation registration confirmation etc. may not be described, so please contact our sales staff separately if necessary. Precautions are for normal handling. In case of special handling, it is the responsibility of the user to take safety measures suitable for the intended use and usage. We have paid close attention to the contents, but we do not guarantee the contents. This product can only be used for industrial purposes. If you want to use it for other purposes, please contact us in advance.