

SAFETY DATA SHEET

SDS: A6141-0000_E001

Date Prepared: 2015/01/07

Date Revised: 2023/01/10

Product Name: **AMINO ALCOHOL 2A**

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

Product name:	AMINO ALCOHOL 2A
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 , 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 3
Acute toxicity (oral)	Category 4
Acute toxicity (dermal)	Category 4
Acute toxicity(vapour)	Category 3
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Specific target organ systemic toxicity following single exposure	Category 1
Specific target organ systemic toxicity following single exposure	Category 3
Specific target organ systemic toxicity following repeated exposure	Category 2
Acute hazards to the aquatic environment	Category 3

Label elements

Hazard pictograms:



Signal word:

Danger

Hazard statements:

H226 Flammable liquid and vapour.
 H302 Harmful if swallowed.
 H312 Harmful in contact with skin.
 H331 Toxic if inhaled.
 H314 Causes severe skin burns and eye damage.
 H318 Causes serious eye damage.
 H370 Causes damage to organs (central nerve system).

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H335+H336 May cause respiratory irritation, or May cause drowsiness or dizziness.

H373 May cause damage to organs (central nerve system) through prolonged or repeated exposure.

H402 Harmful to aquatic life

Precautionary statements:

Prevention P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P233 Keep container tightly closed.
 P240 Ground and bond container and receiving equipment.
 P241 Use explosion-proof electrical/ventilating/lighting equipment.
 P242 Use non-sparking tools.
 P243 Take action to prevent static discharges.
 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 P310 Immediately call a POISON CENTER/doctor/healthcare professionals under the supervision of a doctor.
 P311 Call a POISON CENTER/doctor/healthcare professionals under the supervision of a doctor.
 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.
 P363 Wash contaminated clothing before reuse.
 P301+P312 IF SWALLOWED: Call a POISON CENTRE/doctor/healthcare professionals under the supervision of a doctor if you feel unwell.
 P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P302+P352 IF ON SKIN: Wash with plenty of water/or shower.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with 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.

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P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor/healthcare professionals under the supervision of a doctor.

P370+P378 In case of fire : Use appropriate extinguishing media for extinction.

Storage P405 Store locked up.

P403+P233 Store in a well ventilated place. Keep container tightly closed.

P403+P235 Store in a well ventilated place. Keep cool.

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

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-(Diethylamino)ethanol	99-100	100-37-8	2-297, 2-353	Public	Applicable	Applicable	Deleterious Substances

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.

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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.

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, NO _x 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.

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.

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-(Diethylamino)ethanol	Not established	Not established	2ppm Skin, -mg/m ³	Not established

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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.)
Hygiene measures:	Use an oiliness apron-resistant, boots depending on the situation. Wash with soap and water after handling.

9. Physical and chemical properties

Product

Form:	Liquid (20°C)
Color:	Colorless transparent
Odor:	Ammonia odor
Melting point/freezing point:	-47(°C)
Initial boiling point and boiling range:	157(°C)
Flammability (solid, gas):	No data
Upper/lower flammability or explosive limits:	1.85—28(%)
Flash point:	54.5(°C)
Auto-ignition temperature:	260(°C)
Decomposition temperature:	No data
pH:	11.1 (1%aq.)
Kinematic viscosity:	No data
Solubility:	water : Soluble.
Partition coefficient: n-octanol/water:	No data
Vapour pressure:	133.3(Pa)(20°C)
Specific Gravity:	0.885(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

11. Toxicological information

Product

Acute toxicity (oral):	Category 4
Acute toxicity (dermal):	Category 4
Acute toxicity (inhalation):	Exempt classification (Gas) Category 3 (Vapour) Classification not possible (Dust/Mist)
Skin corrosion/irritation:	Category 1
Serious eye damage/irritation:	Category 1
Respiratory sensitization:	Classification not possible
Skin sensitization:	No Classification
Mutagenicity:	No Classification
Carcinogenicity:	Classification not possible
Reproductive toxicity:	Classification not possible
Target organ effect/Single exposure:	Category 1(central nerve system) Category 3(respiratory tract irritation)
Target organ effect/Multi exposure:	Category 2(central nerve system)
Respiratory toxic:	Classification not possible

Ingredient

2-(Diethylamino)ethanol

Acute toxicity (oral):	Category 4 LD50: 1300-1320 mg/kg[rat]
Acute toxicity (dermal):	Category 4 LD50: 890-1260 mg/kg[rabbit]
Acute toxicity (inhalation):	Exempt classification (Gas) Category 3 (Vapour) LC50: 945 ppm[rat] Classification not possible (Dust/Mist)

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Skin corrosion/irritation:	Category 1 Corrosive [rabbit] Effect on animals : In the rabbit test (OECD TG 404), occlusive application of the substance for 3 minutes up to 4 hours caused necrosis and resulted that the substance was corrosive (SIDS (Access on Jun. 2009)). Similarly, in other reports of rabbit tests, necrosis was observed and resulted that the substance was corrosive (SIDS (Access on Jun. 2009)). Based on these test results, the substance was classified as Category 1. As relevant information, the substance was classified as "R34" in the EU classification (EU Annex I (2006)).
Serious eye damage/irritation:	Category 1 Corrosive [rabbit] Effect on animals : In the rabbit test, instillation of 50 microL of undiluted test substance caused corrosion of the conjunctiva and eyelids, these effects were not reversible after 8 days, and irreversible damage to corneal tissue was observed (SIDS (Access on Jun. 2009)). In the other rabbit test, severe corneal injury, iritis and severe conjunctival irritation with necrosis were observed (SIDS (Access on Jun. 2009)). Based on these results, the substance was classified as Category 1.
Respiratory sensitization:	Classification not possible Effect on person : No data were available.
Skin sensitization:	No Classification Effect on animals : The substance was classified as "Not classified" based on the documented cases of "non-sensitizing" from 2 reports of guinea pig maximization tests in which positive rate was 0% (0/20 and 0/40, respectively) (SIDS (Access on Jun. 2009)).
Mutagenicity:	No Classification Negative The substance was classified as "Not classified" based on the negative results in the micronucleus test using bone marrow cells obtained from mice orally administered (in vivo mutagenicity test in somatic cells) (SIDS (Access on Jun. 2009)).
Carcinogenicity:	Classification not possible Insufficient data were available.

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Reproductive toxicity:	<p>Classification not possible</p> <p>In the developmental toxicity study in which rats were exposed via inhalation during the organogenetic period, the general toxicity such as decreased body weight gain, decreased food consumption, and dry rale was observed in the high dose group in the dams, but no effects were observed in gestational parameters such as pre- and post-implantation loss, and no developmental effects containing teratogenicity were observed (SIDS (Access on Jun. 2009)). However, no data were available on the effects of the sexual functions and fertility of parental animals that were exposed prior to mating. Therefore, the substance was classified as "Classification not possible".</p>
Target organ effect/Single exposure:	<p>Category 1(central nerve system) Category 3(respiratory tract irritation)</p> <p>As for the effects in humans, a laboratory worker who was briefly exposed to approx. 100 ppm (480 mg/m³) of the substance resulted in nausea and vomiting within 5 minutes. The corrosion inhibitor containing the substance was used for boiler, and 65 workers who were exposed to the vapor of the substance via humid air complained the symptoms such as dizziness, nausea, and vomiting (SIDS (Access on Jun. 2009)). Moreover, there were descriptions mentioning that accidental human exposure to the substance at the concentration of below 200 ppm for few minutes resulted in nausea and vomiting (ACGIH (2001)) and that the symbol of "CNSconvul" was designated in the ACGIH-TLV (ACGIH (2009)). Thus, the substance was classified as Category 1 (central nervous system). While in the inhalation study in rats, clinical signs indicating severe irritation were noted, namely, attempts to escape from exposure, irritation in mucous membrane and dyspnea were observed (SIDS (Access on Jun. 2009)). And it was reported that irritation of the mucous membrane of respiratory tract was caused in humans (DFGMAK-Doc.14 (2000)), and that throat irritation was caused in humans exposed occupationally (SIDS (Access on Jun. 2009)). Thus, the substance was classified as Category 3 (respiratory tract irritation).</p>

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Target organ effect/Multi exposure:	<p>Category 2(central nerve system)</p> <p>In the oral study in dogs, weakness, tremors, convulsions and ataxia were observed accompanied with occurrence of deaths at the dose level of 200 mg/kg/day or more, and tremors and shaking of the head from side to side were observed at 40 mg/kg/day (SIDS (Access on Jun. 2009). In either 2-week inhalation study in rats at 1.438 mg/L/6hrs (DFGMAK-Doc. 14 (2000)) or in 5-month inhalation study in rats at 0.622 mg/L/4hrs (0.507 mg/L/6hrs) exposed by vapors (ACGIH (2001)), effects on the central nervous system such as decreased activity, incoordination and clonic-tonic convulsions were observed. Since the findings were observed at the dose levels equivalent to Category 2 of the guidance values, the substance was classified as Category 2 (central nervous system).</p>
Respiratory toxic:	<p>Classification not possible</p> <p>Effect on person : No data available.</p>

12. Ecological information

Product

Ecotoxicity	
Acute toxicity:	Category 3
Chronic toxicity:	No Classification
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-(Diethylamino)ethanol

Ecotoxicity	
Acute toxicity:	Category 3
Fish:	No data
Daphnia:	No data
Algae:	72hrErC50: 44 mg/L[Scenedesmus]
Chronic toxicity:	No Classification
Fish:	No data
Daphnia:	No data
Algae:	No data
Persistence and degradability :	Rapidly biodegradable
Bioaccumulative potential :	Low bioaccumulation
Hazardous to the ozone layer:	Classification not possible

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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.

14. Transport information

International UN classification : 8 (Subsidiary risk 3)
regulations UN number : 2686
Proper shipping name : 2-DIETHYLAMINOETHANOL
Packing group : II

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: 132

15. Regulatory information

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

16. Other information

Reference Information obtained in NITE (National Institute of Technology and Evaluation) and other literature surveys.

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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.