

SAFETY DATA SHEET

[Required under safety and health regulations for shipping and handling]

Version: 2.0

Date Updated: September 13, 2017

SECTION 1. ----- PRODUCT AND COMPANY IDENTIFICATION-----

Product Name Diethylamine
Product Code(s) DC3320
Recommended Use For Laboratory Research Use Only
 Not for Human or Animal Drug Use
Synonyms N-ethylethanamine

Supplier Bio Basic Inc.
Address 20 Konrad Crescent, Markham, Ontario,
 Canada, L3R 8T4
Telephone (905) 474 4493
Fax (905) 474 5794
For Chemical Emergency Phone# (416) 995 9730

SECTION 2. ----- HAZARDS IDENTIFICATION -----

GHS Classification

Flammable liquids (Category 2), H225
 Acute toxicity, Oral (Category 4), H302
 Acute toxicity, Inhalation (Category 4), H332
 Acute toxicity, Dermal (Category 3), H311
 Skin corrosion/irritation (Sub-category 1A), H314
 Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
 For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS Label elements, including precautionary statements

Pictogram



Signal word Danger

Hazard statement(s)

H225 Highly flammable liquid and vapour.
 H302 + H332 Harmful if swallowed or if inhaled
 H311 Toxic in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H335 May cause respiratory irritation.

Precautionary statement(s)

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.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water
 P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

P403 + P235

Store in a well-ventilated place. Keep cool.

Other hazards

None known.

SECTION 3. - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -

Chemical Name	EC No.	CAS-No	Weight %
Diethylamine	203-716-3	109-89-7	95-100

SECTION 4. - - - - - FIRST-AID MEASURES - - - - -

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

SECTION 5. - - - - - FIRE FIGHTING MEASURES - - - - -

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products

Explosion data - sensitivity to mechanical impact

No data available

Explosion data - sensitivity to static discharge

No data available

Further information

Use water spray to cool unopened containers.

SECTION 6. - - - - - ACCIDENTAL RELEASE MEASURES - - - - -

Personal precautions

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

SECTION 7. ----- HANDLING AND STORAGE-----

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Flash back possible over considerable distance. Container explosion may occur under fire conditions. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

SECTION 8. ----- EXPOSURE CONTROLS/PERSONAL PROTECTION-----

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Diethylamine	109-89-7	TWA	5.000000 ppm 15.000000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required Substance may be readily absorbed through intact skin			
		STEL	15.000000 ppm 45.000000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required Substance may be readily absorbed through intact skin			
		TWA	5.000000 ppm	Canada. British Columbia OEL
	Contributes significantly to the overall exposure by the skin route.			
		STEL	15.000000 ppm	Canada. British Columbia OEL
	Contributes significantly to the overall exposure by the skin route.			
		TWAEV	5.000000 ppm 15.000000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	Skin (percutaneous)			
		STEV	15.000000 ppm 45.000000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	Skin (percutaneous)			
		TWA	5 ppm 15 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)

	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required Substance may be readily absorbed through intact skin			
	STEL	15 ppm 45 mg/m ³	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)	
	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required Substance may be readily absorbed through intact skin			
	TWA	5 ppm	Canada. British Columbia OEL	
	Contributes significantly to the overall exposure by the skin route.			
	STEL	15 ppm	Canada. British Columbia OEL	
	Contributes significantly to the overall exposure by the skin route.			
	TWAEV	5 ppm 15 mg/m ³	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants	
	Skin (percutaneous)			
	STEV	15 ppm 45 mg/m ³	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants	
	Skin (percutaneous)			
	TWA	5.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)	
	STEL	15.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)	
	TWA	5 ppm	USA. ACGIH Threshold Limit Values (TLV)	
	STEL	15 ppm	USA. ACGIH Threshold Limit Values (TLV)	

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Splash contact

Material: Fluorinated rubber
Minimum layer thickness: 0.7 mm

Break through time:

159 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES -----

Appearance

Form liquid

Colour colourless

Safety data

pH 13 at 100 g/l at 20 °C (68 °F)

Melting point/freezing point Melting point/range: -50 °C (-58 °F)

Boiling point 55 °C (131 °F)

Flash point -23 °C (-9 °F) - closed cup

Ignition temperature 312 °C (594 °F)

Auto-ignition temperature 310 °C (590 °F) at 1,013 hPa (760 mmHg)

Lower explosion limit 1.8 %(V)

Upper explosion limit 10.1 %(V)

Vapour pressure 241.936 hPa (181.467 mmHg) at 20 °C (68 °F)

Density 0.707 g/mL at 25 °C (77 °F)

Water solubility soluble

Partition coefficient: n-octanol/water log Pow: 0.58

Relative vapour density 2.53
- (Air = 1.0)

Odour No data available

Odour Threshold No data available

Evaporation rate No data available

SECTION 10. -----STABILITY AND REACTIVITY -----

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Vapours may form explosive mixture with air.

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

Aldehydes, Alcohols, Dicyanofurazan, Ketones, phenols, Acids, Halogenated hydrocarbon, Oxidizing agents, Epoxides

Hazardous decomposition products

Other decomposition products - No data available

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx)

SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

Acute toxicity

Oral LD50

LD50 Oral - Rat - male - 540 mg/kg

Inhalation LC50

LC50 Inhalation - Rat - female - 4 h - 17.3 mg/l

Dermal LD50

LD50 Dermal - Rabbit - male - 582 mg/kg

Other information on acute toxicity

No data available

Skin corrosion/irritation

Skin - Rabbit - Causes severe burns. - 1 min - OECD Test Guideline 404

Serious eye damage/eye irritation

Eyes - Rabbit - Corrosive - OECD Test Guideline 405

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

Genotoxicity in vitro - Mouse - lymphocyte - with and without metabolic activation - negative

Genotoxicity in vivo - Mouse - male and female - negative

Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Teratogenicity

No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Potential health effects

Inhalation mucous	May be harmful if inhaled. Material is extremely destructive to the tissue of the membranes and upper respiratory tract. Causes respiratory tract irritation.
Ingestion	Harmful if swallowed.
Skin	Toxic if absorbed through skin. Causes skin burns. Causes skin irritation.
Eyes	Causes eye burns. Causes severe eye burns. Causes eye irritation.

Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Lachrymation

Synergistic effects

No data available

Additional Information

RTECS: HZ8750000

SECTION 12. ----- ECOLOGICAL INFORMATION -----**Toxicity**

Toxicity to fish	LC50 - <i>Oryzias latipes</i> - 27 mg/l - 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	semi-static test EC50 - <i>Ceriodaphnia dubia</i> (water flea) - 4.6 mg/l - 48 h
Toxicity to algae	static test EC50 - <i>Pseudokirchneriella subcapitata</i> (green algae) - 54 mg/l - 72 h Method: OECD Test Guideline 201
Toxicity to bacteria	LC50 - <i>Pseudomonas putida</i> - 47 mg/l - 17 h

Persistence and degradability

Biodegradability	aerobic Result: 68 - 70 % - Readily biodegradable. Method: OECD Test Guideline 301C
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Bioaccumulative potential

No data available

Mobility in soil

No data available

PBT and vPvB assessment

No data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life.

Do not empty into drains.

SECTION 13. ----- DISPOSAL CONSIDERATIONS -----

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

SECTION 14. ----- TRANSPORT INFORMATION -----

DOT

UN number: 1154 Class: 3 (8) Packing group: II
Proper shipping name: Diethylamine
Environmentally Hazard: --

IMDG

UN number: 1154 Class: 3 (8) Packing group: II
Proper shipping name: DIETHYLAMINE
Environmentally Hazard: --
Special precautions for user: Yes

IATA

UN number: 1154 Class: 3 (8) Packing group: II
Proper shipping name: Diethylamine
Environmentally Hazard: --
Special precautions for user: No

SECTION 15. ----- REGULATORY INFORMATION -----

United States of America

Canada

WHMIS Classification

B2 Flammable liquid
D1B Toxic Material Causing Immediate and Serious Toxic Effects
D2B Toxic Material Causing Other Toxic Effects
E Corrosive Material

Flammable Liquid, Toxic by skin absorption, respiratory irritant, Corrosive to skin, Corrosive to eyes

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Notification

TSCA: All components of the product are listed in the TSCA-inventory

DSL: All components of the product are on the Canadian DSL

SECTION 16. ----- OTHER INFORMATION -----

Issuing Date 09-Feb-2009
Revision Date 13-Sept-2017
Revision Note No information available.

Recommended Restrictions No information available

Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS