SAFETY DATA SHEET

TEDIA®
High Purity Solvents

1000 Tedia Way
Fairfield, Ohio 45014
USA
Email: tedia@tedia.com
Web: www.tedia.com

24-Hour Emergency Number (CHEMTREC)
USA: 800-424-9300
International: 703-527-3887

All non-emergency numbers should be directed to Customer Service at 800-PURITY1

DIAZABICYCLOUNDECENE — SDS No. M0564

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Diazabicycloundecene
Synonyms: DBU
1,8-Diazabicyclo[5.4.0]undec-7-ene
2,3,4,6,7,8,9,10-Octahydropyrimidol[1,2-a]azepine
Recommended Use: This product is recommended for laboratory and manufacturing use only. It is not recommended for drug, food or household use.

2. HAZARDS IDENTIFICATION

Classification:
Acute Toxicity, Oral: GHS Category 3
Skin Corrosion: GHS Category 1B
Serious Eye Damage: GHS Category 1
Acute Aquatic Toxicity: GHS Category 3
Chronic Aquatic Toxicity: GHS Category 3

Label Elements
Signal Word: DANGER!
Hazard Statements:
H290 – May be corrosive to metals.
H301 – Toxic if swallowed.
H314 – Causes severe skin burns and eye damage.
H318 – Causes serious eye damage.
H412 – Harmful to aquatic life with long lasting effects.
Precautionary Statements:
P273 – Avoid release to the environment.
P280 – Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 – IF SWALLOWED: Immediately call or POISON CENTER or doctor/physician.
P303+P361+P353 – IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340+P310 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

Emergency Overview
Causes burns by all exposure routes. Toxic if swallowed.

HMIS Rating:
Health – 3 Flammability – 1 Physical Hazard – 0 PPE – User supplied
NOTE: HMIS ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. These ratings are based on the inherent properties of this chemical under expected conditions of normal use and are not intended to be used in emergency situations. PPE is determined by the user based on their needs and conditions.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Ingredient	CAS No	Percent	Hazardous
1,8-Diazabicyclo[5.4.0]undec-7-ene	6674-22-2	>99%	Yes

4. FIRST-AID MEASURES

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Ingestion: Get medical help immediately. Do not induce vomiting. If vomiting occurs naturally, have victim lean forward. If victim is conscious and alert, give a cupful of water. Never give anything by mouth to an unconscious person. Get medical help.
Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing. Get medical attention immediately. Wash clothes before reuse.
Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.
Notes to Physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Flammability: No data available
Auto-ignition Temperature: No data available
Flash Point: 116° C (241° F)
Flammable Limits: Lower Limit – 1.1 %(V), Upper Limit – 6.5 %(V)
Products of Combustion: No data available
Specific Fire Hazards: As in any fire, always wear self-contained breathing apparatus in pressure-demand (MSA/NIOSH approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Combustible liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.
Specific Explosion Hazards: No data available
Fire Fighting Media: Use water spray, alcohol resistant foam, dry chemical, or carbon dioxide
National Fire Protective Association: Health - 3, Flammability - 1, Reactivity - 0
NOTE: NFPA ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. They are for use by emergency personnel to address the hazards that are presented by short term, acute exposure to this product under fire, spill, or similar emergencies. Ratings involve data and interpretations that may vary from company to company.

6. ACCIDENTAL RELEASE MEASURES

Absorb spilled liquid with sorbent pads, socks, or other inert material such as vermiculite, sand, or earth. Do not use sawdust or any combustible material. Use spark-proof tools. Provide ventilation to the affected area and remove all ignition

sources. Approach the spill from upwind and pick up absorbed material and place it in a suitable container. Always use proper personal protective equipment as described in section 8.

7. HANDLING AND STORAGE

Precautions: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Discard contaminated shoes. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Keep away from heat and flame. Do not breathe vapor or mist.
Storage: Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Facilities storing or using the material should be equipped with eyewash station and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
Personal Protection: Wear protective chemical goggles and face shield for eye and face protection. Use butyl rubber gloves and protective clothing to prevent skin exposure. A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever possible. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.
Exposure Limits: None established.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State and Appearance: Colorless to yellow liquid.
Odor: strong unpleasant odor
Molecular Formula: $C_9H_{16}N_2$
Molecular Weight: 152.24 g/mol
Auto-ignition Temperature: No data available
Flash Point: 116° C (241° F)
Flammable Limits: Lower Limit – 1.1 %(V), Upper Limit – 6.5 %(V)
pH: 12.8 at (10g/l H2O at 20 ° C).
Boiling Point: 80 – 83° C @ 0.8 hPA
Freezing/Melting Point: -69.99° C
Decomposition Temperature: Not available
Specific Gravity: 1.018 g/mL at 25° C
Vapor Density (Air=1): No data available
Vapor Pressure: 7.1 hPa (5.3 mm Hg) @ 37.7° C.
Viscosity: No data available
Solubility: No data available

10. STABILITY AND REACTIVITY

Stability: Stable under normal temperature and pressure.
Conditions to Avoid: Ignition sources, excess heat.
Incompatibility with Various Substances: acids, acid chlorides, acid anhydrides, oxidizing agents, chloroformates.
Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon dioxide.
Hazardous Polymerization: No data available

11. TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, skin absorption, skin contact
Acute Exposure Hazards*:* No data available

INHALATION HAZARD: Causes chemical burn to the respiratory tract.
INGESTION HAZARD: May cause severe and permanent damage to the digestive tract. Harmful if swallowed.
SKIN CONTACT HAZARD: Causes skin burns. Harmful if absorbed through the skin.
EYE CONTACT HAZARD: Causes serious eye injuries.

Chronic Exposure Hazards: No data available.
Animal Toxicity:
Oral, rat: LD50 > 215 < 681 mg/kg;
Carcinogenicity: Not listed as a carcinogen by ACGIH, IARC, NTP, OSHA or CA Prop 65
Epidemiology: No data available.
Teratogenicity: No data available.
Reproductive Effects: No data available.
Mutagenicity: No data available.
Neurotoxicity: No data available.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Toxicity to fish	LC50 – Leuciscus idus (Golden orfe) 100.0 – 220.0 mg/l – 96 h
Toxicity to daphnia	EC50 – Daphnia magna (Water flea) 50 mg/l – 48 h

Environmental Fate: No data available.

13. DISPOSAL CONSIDERATIONS

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, use or contamination of this product may change the waste management options. Waste generators must decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions found in 40 CFR 261.3. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION

US DOT
Proper Shipping Name: Corrosive Liquid, basic, organic, n.o.s. (1,8-Diazabicyclo[5.4.0]undec-7-ene)
Hazard Class: 8
UN Number: UN3267
Packing Group: II

IMDG
Proper Shipping Name: Corrosive Liquid, basic, organic, n.o.s. (1,8-Diazabicyclo[5.4.0]undec-7-ene)
Hazard Class: 8
UN Number: UN3267
Packing Group: II

IATA
Proper Shipping Name: Corrosive Liquid, basic, organic, n.o.s. (1,8-Diazabicyclo[5.4.0]undec-7-ene)
Hazard Class: 8
UN Number: UN3267
Packing Group: II

15. REGULATORY INFORMATION

US Federal Regulations:

CERCLA Hazardous Substances: CAS# 616-47-7 does not have a final RQ
SARA Section 302: Does not have a TPQ
SARA Section 313: This material does not contain any chemical components with a known CAS numbers that exceed the threshold (De Minimis) reporting levels establish by SARA title III, Section 313.
OSHA: Not considered highly hazardous by OSHA.

US State Regulations:

CAS# 616-47-7 is found on the following state right-to-know lists: Pennsylvania, New Jersey.
California Prop 65: This product contains no chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Originally Prepared: 3/01/2018

The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment.

TEDIA COMPANY, INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, TEDIA COMPANY, INC. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.