ADVANCED ANALYTICAL TECHNOLOGIES, INC.

Safety Data Sheet
DNF-325 5X Inlet Buffer

SECTION 1: Identification

1.1 Product identifier

Product name            DNF-325 5X Inlet Buffer

1.2 Recommended use of the chemical and restrictions on use

For Research and Development/Experimental Use Only

1.3 Supplier’s details

Name                        Advanced Analytical Technologies, Inc.
Address                     2450 SE Oak Tree Ct.
                           Suite 101
                           Ankeny, IA 50021
                           USA

Telephone                   515-964-8500
Fax                          515-964-7377

1.4 Emergency phone number(s)            515-964-8500 (Monday-Friday 8:00AM-5:00PM CST)

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with OSHA (29 CFR 1910.1200)
- Skin corrosion/irritation (chapter 3.2), Cat. 2
- Eye damage/irritation (chapter 3.3), Cat. 2A

2.2 GHS label elements, including precautionary statements

Pictogram

Signal word            Warning
Hazard statement(s)
H315                  Causes skin irritation
H319                  Causes serious eye irritation
Precautionary statement(s)

P264 Wash hands thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
P321 Specific treatment: Not applicable.
P332+P313 IF SKIN IRRITATION OCCURS: Get medical advice/attention.
P361+P364 Take off contaminated clothing and wash it before reuse.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P337+P313 IF EYE IRRITATION PERSISTS: Get medical advice/attention.

2.3 Other hazards which do not result in classification

SECTION 3: Composition/information on ingredients

3.1 Substances

Hazardous components

1. TRIETHYLAMINE
Concentration <2 % (Weight)*

Other names / synonyms Ethanamine, N,N-diethyl-; N,N-DIETHYLETHANAMINE; TEN
EC no. 204-469-4
CAS no. 121-44-8
Index no. 612-004-00-5

Other Components

2. WATER
Concentration > 84 %*

Other names / synonyms DIHYDROGEN OXIDE; HYDROGEN OXIDE
CAS no. 7732-18-5

3. Proprietary Non-Hazardous Buffer Ingredients*
Concentration 7-12 %*

4. 2-Methyl 4-isothiazolin-3-one
Concentration 0.02 %
CAS no. 2682-20-4

Trade secret statement (OSHA 1910.1200(i))
*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

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

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

In case of skin contact Wash off with soap and plenty of water. Consult a physician.

In case of eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Personal protective equipment for first-aid responders
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of immediate medical attention and special treatment needed, if necessary
No data available

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Specific hazards arising from the chemical
Carbon oxides, Nitrogen oxides (NOx), Borane/boron oxides

5.3 Special protective actions for fire-fighters
Wear self-contained breathing apparatus for firefighting if necessary.

Further information
No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
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.

Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection
8.1 Control parameters

1. Triethylamine (CAS: 121-44-8)
PEL (Inhalation): 25 ppm (OSHA)
OSHA Annotated Table Z-1, www.osha.gov

2. Triethylamine (CAS: 121-44-8)
PEL (Inhalation): 100 mg/m3 (OSHA)
OSHA Annotated Table Z-1, www.osha.gov

3. Triethylamine (CAS: 121-44-8)
PEL (Inhalation): (C) 1 ppm (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

4. Triethylamine (CAS: 121-44-8)
REL (Inhalation): See Appendix D (NIOSH)
OSHA Annotated Table Z-1, www.osha.gov

8.2 Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin 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.

Body protection
Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (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).

Environmental exposure controls
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance/form</td>
<td>Clear, colorless to faint yellow liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Faint amine-like odor</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
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<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable</td>
</tr>
<tr>
<td>Upper/lower flammability limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>
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Upper/lower explosive limits  
Vapor pressure  
Vapor density  
Relative density  
Solubility(ies)  
Partition coefficient: n-octanol/water  
Auto-ignition temperature  
Decomposition temperature  
Viscosity  
Explosive properties  
Oxidizing properties

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
No data available

10.5 Incompatible materials
Acids, bases, reducing agents and oxidants

10.6 Hazardous decomposition products
Stable under recommended storage conditions.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
No data available

Skin corrosion/irritation
No data available

Serious eye damage/irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

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NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available

Summary of evaluation of the CMR properties
No data available

STOT-single exposure
No data available

STOT-repeated exposure
No data available

Aspiration hazard
No data available

Additional information
No data available

SECTION 12: Ecological information

Toxicity
No data available

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Other adverse effects
No data available

SECTION 13: Disposal considerations

Disposal of the product
Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

Disposal of contaminated packaging
Treat as unused product.

SECTION 14: Transport information

DOT (US)
Not dangerous goods
SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

**SARA 302 Components**
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 311/312 Hazards**
Acute Health Hazard

**SARA 313 Components**
The following components are subject to reporting levels established by SARA Title III, Section 313:
- Triethylamine CAS # 121-44-8

**Massachusetts Right To Know Components**
- Triethylamine CAS # 121-44-8

**New Jersey Right To Know Components**
- Triethylamine CAS # 121-44-8
- 2-Methyl 4-isothiazolin-3-one CAS # 2682-20-4

**Pennsylvania Right To Know Components**
- Triethylamine CAS # 121-44-8
- 2-Methyl 4-isothiazolin-3-one CAS # 2682-20-4

**California Prop. 65**
This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: Other information

Revision date: September 27, 2016

This information provided concerning this Safety Data Sheet is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, expressed or implied, with respect to such information and we assume no liability resulting from its use. Users should make their own investigations to determining the suitability of the information for their particular purposes. This material is for R&D/experimental use only. In no event shall Advanced Analytical be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, however arising, even if Advanced Analytical has been advised of the possibility of such damages.

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