

# Safety Data Sheet

# COVACHEM, LLC.

# LCMS Grade Triethylamine

### **SECTION 1: Identification**

#### 1.1 Product identifier

Product name

- LCMS Grade Triethylamine
- Product number Brand Substance name EC no. CAS no. Index no.

11205 CovaChem Triethylamine 204-469-4 121-44-8 612-004-00-5

#### Recommended use of the chemical and restrictions on use 1.3

The intended use is as a mobile phase additive for high performance liquid chromatography (HPLC) and Liquid chromatography with Mass spectrometry (LCMS). This compound may also be used in organic synthesis and in the manufacture of substances. This compound is usually encountered as an aqueous solution.

#### Supplier's details 1.4

Name Address	CovaChem, LLC. 6260 East Riverside Blvd Suite 119 Loves Park, IL 61111 United States
Telephone Fax email	815-315-1271 815-315-1272 info@covachem.com
Emergency phone number(s)	

1.5

PERS Professional Emergency Response Service Company Code 11814 1-800-633-8253 (U.S. & Canada) 1-801-629-0667 (International)

### **SECTION 2: Hazard identification**

#### 2.1 Classification of the substance or mixture

### GHS classification in accordance with: (US) OSHA (29 CFR 1910.1200)

- Flammable liquids (chapter 2.6), Cat. 2
- Acute toxicity, oral (chapter 3.1), Cat. 4
- Acute toxicity, dermal (chapter 3.1), Cat. 3
- Skin corrosion/irritation (chapter 3.2), Cat. 1
- Acute toxicity, inhalation (chapter 3.1), Cat. 3
- Hazardous to the aquatic environment acute hazard (chapter 4.1), Cat. 3

#### 2.2 GHS label elements, including precautionary statements

### Pictogram



Signal word	Danger
Hazard statement(s)	
H225	Highly flammable liquid and vapor
H302	Harmful if swallowed
H311	Toxic in contact with skin
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H331	Toxic if inhaled
H332	Harmful if inhaled
H402	Harmful to aquatic life
H370	Causes damage to organs
H372	Causes damage to organs through prolonged or repeated exposure
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/bond container and receiving equipment.
P241	Use explosion-proof equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe dust, fumes, gas, mist, vapors or spray.
P264	Wash hands, arms 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 and eye protection.
P301+P312	IF SWALLOWED: Call Poison CENTER or physician if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse
	skin with water.
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
500/	contact lenses if present and easy to do. Continue rinsing.
P321	Specific treatment (Wash areas of contact with water).
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P363	Wash contaminated clothing before reuse.
P3/0+P378	In case of fire: Use dry chemical, foam or carbon dioxide to extinguish.
P403+P235	Store in a well ventilated place. Keep cool.
P405	Store locked up.
P501	Specific treatment (Wash areas of contact with water).

# **SECTION 3: Composition/information on ingredients**

### 3.1 Substances

Substance name	Triethylamine
EC no.	204-469-4
CAS no.	121-44-8
Index no.	612-004-00-5
Formula	C6H15N
Molecular weight	101.22

Other names / synonyms	TRIETHYLAMINE (DOT); TEN; N,N-DIETHYLETHANAMINE; TRIETHYLAMINE
Impurities and stabilizing additives	No additional ingredients present known to the supplier, which are classified as hazardous to health or environment, which would require reporting herein.
Hazardous components	
1. Triethylamine	
Concentration	98 - 100 %
EC no.	204-469-4
CAS no.	121-44-8
Index no.	612-004-00-5

### **SECTION 4: First-aid measures**

#### 4.1 Description of necessary first-aid measures

General advice

In the event of exposure situation, move away from the dangerous area and contact a physician immediately. Show this safety data sheet to physician, as a reference.

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#### \*SKIN CONTACT:

IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water.

IMMEDIATELY call a hospital or poison control center even if no symptoms (such as redness or irritation) develop.

IMMEDIATELY transport the victim to a hospital for treatment after washing the affected areas.

#### \*INHALATION:

IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital.

Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA)

should be used; if not available, use a level of protection greater than or equal to that advised under Respirator Recommendation.

### \*EYE CONTACT:

First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center.

Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician.

IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.

### \*INGESTION:

DO NOT INDUCE VOMITING. Corrosive chemicals will destroy the membranes the mouth, throat, and esophagus and, in addition, have a high risk of being aspirated into the victim's lungs during vomiting which increases

	the medical problems. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. IMMEDIATELY transport the victim to a hospital. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. Transport the victim IMMEDIATELY to a hospital.
	*SYMPTOMS: IRRITANT OF EYES AND MUCOUS MEMBRANES. EYE IRRITATION AND CORNEAL EDEMA REPORTED FROM INDUSTRIAL EXPOSURE. CAUSES PULMONARY IRRITATION AND INJURY TO THE HEART, LIVER, AND KIDNEYS IN EXPERIMENTAL ANIMALS.
	*FIREFIGHTING: This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher.
If inhaled	IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self- Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Respirator Recommendation.
In case of skin contact	IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. IMMEDIATELY call a hospital or poison control center even if no symptoms (such as redness or irritation) develop. IMMEDIATELY transport the victim to a hospital for treatment after washing the affected areas.
In case of eye contact	First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.
If swallowed	DO NOT INDUCE VOMITING. Corrosive chemicals will destroy the membranes of the mouth, throat, and esophagus and volatile chemicals have a high risk of being aspirated into the victim's lungs during vomiting. Thus, the risk of increasing the medical problems by inducing vomiting of a volatile corrosive chemical is very high. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. IMMEDIATELY transport the victim to a hospital. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital.

DO NOT INDUCE VOMITING. Corrosive chemicals will destroy the membranes of the mouth, throat, and esophagus and, in addition, have a high risk of being aspirated into the victim's lungs during vomiting which increases the medical problems. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. IMMEDIATELY transport the victim to a hospital. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. Transport the victim IMMEDIATELY to a hospital.

### 4.2 Most important symptoms/effects, acute and delayed

Symptoms of exposure to this compound include irritation and burns of the skin, eyes and respiratory tract [269,371]. It also causes irritation of the mucous membranes [033,102]. It is corrosive and extremely destructive to tissues of the mucous membranes and upper respiratory tract, eyes and skin [269]. Other symptoms of exposure include coughing, chest pains and difficulty in breathing [102,269]. It may cause swelling of the eye, causing foggy vision and appearance of halos around lights. Eye contact may also cause pain [102]. Exposure may cause smarting and reddening of the skin. High vapor concentrations can cause asphyxiation [371]. Erythema and blistering have been reported [301]. Topical application to skin can cause necrosis and vesiculation [102]. Severe corneal damage may occur from contact with eyes. Repeated exposures may cause tracheitis, bronchitis, pneumonitis and pulmonary edema [421]. Other eye effects from exposure to this compound include edema of the epithelium of the cornea and blue hazy vision due to a subtle temporary disturbance of the corneal epithelium [099]. Ingestion of strong alkalies causes severe pain, vomiting, diarrhea and collapse. The vomitus contains blood and desquamated mucosal lining. If death does not occur in 24 hours, there may be improvement then sudden onset of severe abdominal pain, board-like abdominal rigidity and rapid fall of blood pressure indicating delayed gastric or esophageal perforation. Other symptoms include esophageal stricture and chronic dermatitis [301].

IRRITANT OF EYES AND MUCOUS MEMBRANES. EYE IRRITATION AND CORNEAL EDEMA REPORTED FROM INDUSTRIAL EXPOSURE. CAUSES PULMONARY IRRITATION AND INJURY TO THE HEART, LIVER, AND KIDNEYS IN EXPERIMENTAL ANIMALS.

### **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 When the temperature is above the flash point, flammable in the presence of an ignition source. Keep away from all heat sources, sparks, and open flames.

# 5.3 Special protective actions for fire-fighters

Wear a self-contained breathing apparatus when appropriate.

### **Further information**

Carbon oxides, and Nitrogen oxides (NOx) may form upon combustion.

This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher.

### **SECTION 6: Accidental release measures**

## 6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing vapors. Use in well ventilated area. Use air purifying respirator protection.

### \*ACUTE/CHRONIC HAZARDS:

TOXIC. CAUSES IRRITATION TO SKIN OR MUCOUS MEMBRANE. LACHRYMATOR. HARARDOUS DECOMPOSITION PRODUCTS. FIRE HAZARD.

### \*MINIMUM PROTECTIVE CLOTHING:

If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves.

### \*RECOMMENDED GLOVE MATERIALS:

The following gloves show the best resistance based on permeation testing. It is recommended that two different glove types be used for best protection. However, if this chemical makes direct contact with your glove, or if a tear, puncture or hole develops, remove them at once.

#### SUGGESTED GLOVES: Nitrile, Viton

#### \*RECOMMENDED RESPIRATOR:

When working with this chemical, wear a NIOSH-approved full face chemical cartride respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators.

#### \*OTHER: Not available

### **\*STORAGE PRECAUTIONS:**

PROTECT CONTAINER FROM DAMAGE. STORE IN A COOL, DRY PLACE IN A FLAMMABLE LIQUID STORAGE CABINET OR AREA. PROTECT FROM LIGHT.

#### \*SPILLS AND LEAKAGE:

If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.

### \*DISPOSAL AND WASTE TREATMENT:

You should dispose of all waste and contaminated materials associated with this chemical as specified by existing local, state and federal regulations concerning hazardous waste disposal. It is suggested that your contaminated materials should be destroyed by incineration in a special, high temperature ( >2000 degrees F), chemical incinerator facility.

### 6.2 Environmental precautions

Prevent environmental release. Do not pour down drain or allow to enter waterways or sewers. Prevent further spillage of material when possible.

### 6.3 Methods and materials for containment and cleaning up

If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash

any surfaces you may have contaminated with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.

### **Reference to other sections**

For disposal information refer to section 13.

### **SECTION 7: Handling and storage**

### 7.1 Precautions for safe handling

Avoid breathing vapors. Wear respiratory protection. Avoid contact with skin and eyes. Container may explode under fire conditions. Keep away from ignition sources including sparks, fire, and static electricity.

# **7.2** Conditions for safe storage, including any incompatibilities Store container upright, in a well ventilated, dry location.

Recommended Storage Temperature: Room Temp (+15 - 25 °C)

#### Specific end use(s)

For laboratory use only. Intended for use as a research laboratory chemical or in the manufacturing of substances.

### **SECTION 8: Exposure controls/personal protection**

### 8.1 Control parameters

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

### 2. Triethylamine (CAS: 121-44-8)

PEL (Inhalation): (C) 1 ppm (Cal/OSHA) OSHA Annotated Table Z-1, www.osha.gov

### 3. Triethylamine (CAS: 121-44-8)

PEL (Inhalation): 100 mg/m3 (OSHA) OSHA Annotated Table Z-1, www.osha.gov

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

### 8.2 Appropriate engineering controls

Use product in a well ventilated location, such as in a fume hood.

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

### Pictograms



### **Eye/face protection**

Use a face shield (minimum 8 inches) and government tested and approved safety goggles, such as NIOSH (US) or EN 166 (EU).

#### **Skin protection**

\*MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. \*RECOMMENDED GLOVE MATERIALS: The following gloves show the best resistance based on permeation testing. It is recommended that two different glove types be used for best protection. However, if this chemical makes direct contact with your glove, or if a tear, puncture or hole develops, remove them at once. SUGGESTED GLOVES: Nitrile, Viton

### **Body protection**

Complete chemical protective suit is recommended. The personal protective equipment should be selected based upon the concentration and amount of chemical at work station.

### **Respiratory protection**

\*RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartride respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators.

### **Thermal hazards**

Product is flammable. Keep away from fire and ignition sources.

### **SECTION 9: Physical and chemical properties**

### Information on basic physical and chemical properties

Clear, Liquid Appearance/form (physical state, color, etc.) Amoniacal odor Odor Odor threshold Data unavailable pН 12.7 at 100 g/L at 15 C. Melting point/freezing point -114.7 Initial boiling point and boiling range 89.3 Flash point -6.67 Evaporation rate Evaporation rate (butyl acetate = 1): 16.9 Flammability (solid, gas) Flash Point of -28 °C (-20 F) Upper/lower flammability limits Data unavailable Upper/lower explosive limits Data unavailable Vapor pressure Data unavailable Vapor density 3 4 9 Relative density 0.726 at 25 C Solubilitv(ies) hot or cold water Partition coefficient: n-octanol/water log Pow: 1.15 Auto-ignition temperature Data unavailable Decomposition temperature Data unavailable Viscosity Data unavailable Explosive properties Data unavailable Oxidizing properties Data unavailable

### **SECTION 10: Stability and reactivity**

### 10.2 Chemical stability

The chemical is stable under normal storage conditions.

## 10.3 Possibility of hazardous reactions

Data unavailable

### 10.4 Conditions to avoid

Avoid excessive heat exposure and proximity to sparks or open flames.

### 10.5 Incompatible materials

Strong oxidizing agents.

### 10.6 Hazardous decomposition products

Carbon oxides and Nitrogen oxides (NOx) may form under fire conditions.

### **SECTION 11: Toxicological information**

### Information on toxicological effects

### Acute toxicity

LD50 Oral: 730 mg/kg (Rat) LC50 Inhalation: 7.1 mg/L for 4 h (Rat) LC50 Dermal: 580 mg/kg (Rabbit)

Skin corrosion/irritation Skin: Severe skin irritation (rabbit)

Serious eye damage/irritation Data unavailable

**Respiratory or skin sensitization** May cause skin irritation/sensitization and allergic respiratory conditions

#### Germ cell mutagenicity Data unavailable

Carcinogenicity Data unavailable

## Reproductive toxicity

Data unavailable

#### STOT-single exposure Data unavailable

STOT-repeated exposure

Data unavailable

## Aspiration hazard

Data unavailable

### Additional information

\*TOXICITY: typ. dose mode specie amount units other LC50 ihl mam 5000 mg/m3 LCLo ihl mus 3 gm/m3 LC50 ihl rat 4000 ppm/4H LDLo ipr rat 50 mg/kg LD50 orl mus 500 mg/kg LD50 orl rat 540 mg/kg LD50 skn rbt 820 mg/kg

\*AQTX/TLM96: Not available

\*SAX TOXICITY EVALUATION: THR: Moderately toxic by ingestion, inhalation and skin contact. A skin and severe eye irritant.

### **SECTION 12: Ecological information**

### Toxicity

Toxicity to Fish: LC50, 25-198 mg/L at 96 h (Oncorhynchus mykiss, ie. Rainbow trout) Toxicity to Daphnia: EC50, 56 mg/L at 48 h (Daphnia magna, ie. Water flea) Toxicity to Algae: 20 mg/L at 96 h (Algae) Toxicity to Bacteria: 47 mg/L at 17 h (Bacteria)

### Persistence and degradability

Readily Biodegradable 75%

**Bioaccumulative potential** 

Data unavailable

#### Mobility in soil

Data unavailable

### Results of PBT and vPvB assessment

Data unavailable

### Other adverse effects

This chemical may cause environmental hazards. Do not allow material to enter the drain, sewer, or water ways.

### **SECTION 13: Disposal considerations**

#### Disposal of the product

Generation of waste should be kept to a minimum when possible. Any waste generated should be recycled when possible. Please dispose any unused or used materials in accordance with applicable national, regional and local laws and regulations.

### **Disposal of contaminated packaging**

Dispose in the same way as unused product.

### Waste treatment

This product should be disposed of by a licensed waste management professional. Disposal through incineration with afterburner scrubbing is recommended.

#### Sewage disposal

Product should not enter the sewer.

### **SECTION 14: Transport information**

### DOT (US)

UN Number: 1296 Class: 3 (8) Packing Group: II Proper Shipping Name: Triethylamine Reportable quantity (RQ): 5,000 lbs Marine pollutant: No Poison inhalation hazard: No

### IMDG

UN Number: 1296 Class: 3(8) Packing Group: II EMS Number: F-E, S-C Proper Shipping Name: TRIETHYLAMINE

IATA UN Number: 1296 Class: 3(8) Packing Group: II Proper Shipping Name: Triethylamine

### **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

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

### SARA 313 Components

Fire Hazard, Chronic Health Hazard, Acute Health Hazard

### Pennsylvania Right To Know Components

Chemical name: Ethanamine, N,n-diethyl-CAS number: 121-44-8

### New Jersey Right To Know Components

Common name: TRIETHYLAMINE CAS number: 121-44-8

### Massachusetts Right To Know Components

Chemical name: Triethylamine CAS number: 121-44-8

### **HMIS Rating**

Triethylamine		
HEALTH	3	
FLAMMABILITY	3	
PHYSICAL HAZARD	0	
PERSONAL PROTECTION		

### **NFPA** Rating



## **SECTION 16: Other information**

### 16.1 Further information/disclaimer

The information represented in this Safety Data Sheet is believed to be correct and is based on the current state of our knowledge. This document or any other document does not represent or suggest any type of warranty or guarantee of the product properties or characteristics of this material. CovaChem, LLC and its affiliates shall not be held liable for any damages that result from contact with the above product or handling this product or any others.