

Safety data sheet
according to UK REACH

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**

· **Trade name:** Triethylamine

· **Article number:** 3542

· **CAS Number:**

121-44-8

· **EC number:**

204-469-4

· **Index number:**

612-004-00-5

· **Application of the substance / the mixture**

Biochemistry

Laboratory chemicals

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

PANREAC QUIMICA S.L.U.

C/Garraf 2

Polígono Pla de la Bruguera

E-08211 Castellar del Vallès (Barcelona)

Tel. (+34) 937 489 400

Fax. (+34) 937 489 401

e-mail: product.safety@itwreagents.com

· **Further information obtainable from:** email: product.safety@panreac.com

· **1.4 Emergency telephone number:**

Single telephone number for emergency calls: 112 (EU)

Tel.: (+34) 937 489 499

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**

Flam. Liq. 2 H225 Highly flammable liquid and vapour.

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

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- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the GB CLP regulation.
- **Hazard pictograms**



GHS02 GHS05 GHS07

- **Signal word** Danger
- **Hazard statements**
H225 Highly flammable liquid and vapour.
H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.1 Substances**
- **CAS No. Description**
121-44-8 Triethylamine
Consisting of: 109-89-7 diethylamine (≥ 0.001 - $\leq 0.1\%$)
- **Identification number(s)**
- **EC number:** 204-469-4
- **Index number:** 612-004-00-5

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
Personal protection for the First Aider.
Position and transport stably in side position.
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Remove breathing equipment only after contaminated clothing have been completely removed.

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In case of irregular breathing or respiratory arrest provide artificial respiration.

Involve doctor immediately.

· **After inhalation:**

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

· **After skin contact:**

Call a doctor immediately.

Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

make victim drink water (maximum of 2 drinking glasses)

Call a doctor immediately.

· **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed**

Later observation for pneumonia and pulmonary oedema.

Medical supervision for at least 48 hours.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **5.2 Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Nitrogen oxides (NO_x)

Carbon monoxide and carbon dioxide

Ammonia

Combustible.

Forms explosive mixtures with air at ambient temperatures.

Vapours are heavier than air and may spread along floors.

Beware of backfiring.

Forms explosive mixtures with air on intense heating.

· **5.3 Advice for firefighters**

· **Protective equipment:**

Mouth respiratory protective device.

Wear self-contained respiratory protective device.

Wear fully protective suit.

· **Additional information**

Cool endangered receptacles with water spray.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Contain escaping vapours with water.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Keep away from ignition sources.

Avoid substance contact.

Do not inhale steams/aerosols.

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- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
Clean up affected area.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Provide alkali-resistant floor.
- **Information about storage in one common storage facility:** Away from sources of ignition and heat.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Open receptacle only under localised extractor facilities.
Store receptacle in a well ventilated area.
Store only outside or in explosion proof rooms.
Store under lock and key and with access restricted to technical experts or their assistants only.
- **Recommended storage temperature:** < 15°C
- **Storage class:** 3
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

121-44-8 Triethylamine

WEL	Short-term value: 17 mg/m ³ , 4 ppm
	Long-term value: 8 mg/m ³ , 2 ppm
	Sk

- **DNELs**

Dermal	Long-term - systemic effects, worker	12.1 mg/kg
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Inhalative	Acute - local effects, worker	12.6 mg/m ³
	Acute - systemic effects, worker	12.6 mg/m ³
	Long-term - systemic effects, worker	8.4 mg/m ³
	Long-term - local effects, worker	8.4 mg/m ³

· **PNECs**

Aquatic compartment - freshwater	0.11 mg/L
Aquatic compartment - marine water	0.011 mg/L
Aquatic compartment - sediment in freshwater	1.57 mg/kg
Aquatic compartment - sediment in marine water	0.158 mg/kg
Sewage treatment plant	100 mg/L
Ground	0.25 mg/kg

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Appropriate engineering controls** No further data; see section 7.

· **Individual protection measures, such as personal protective equipment**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

Short term filter device:

Filter A-(P2)

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Use suitable respiratory protective device only when aerosol or mist is formed.

· **Hand protection**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.4 mm

Value for the permeation: Level ≥ 480 min

· **As protection from splashes gloves made of the following materials are suitable:**

Chloroprene rubber, CR

Recommended thickness of the material: ≥ 0.5 mm

Value for the permeation: Level ≥ 30 min

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· **Eye/face protection**



Gauze goggles

· **Body protection:**

Use protective suit.
Alkaline resistant protective clothing
Full head, face and neck protection
Flame retardant antistatic protective clothing

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· Physical state	Liquid
· Colour:	Yellowish
· Odour:	Amine-like
· Odour threshold:	Not determined.
· Melting point/freezing point:	-115 °C
· Boiling point or initial boiling point and boiling range	89 °C
· Flammability	Not applicable. Highly flammable.
· Lower and upper explosion limit	
· Lower:	Not determined.
· Upper:	Not determined.
· Flash point:	-11 °C
· Auto-ignition temperature:	249 °C
· Decomposition temperature:	Not determined.
· pH	12.7
· Viscosity:	
· Kinematic viscosity	Not determined.
· Dynamic at 20 °C:	0.363 mPas
· Solubility	
· water at 20 °C:	112 g/l
· Partition coefficient n-octanol/water (log value)	1.45
· Vapour pressure at 20 °C:	72 hPa
· Density and/or relative density	
· Density at 20 °C:	0.73 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.

· **9.2 Other information**

· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Not determined.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Molecular weight	101.19 g/mol

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- **Change in condition**
- **Evaporation rate** Not determined.
- **Information with regard to physical hazard classes**
- **Explosives** Void
- **Flammable gases** Void
- **Aerosols** Void
- **Oxidising gases** Void
- **Gases under pressure** Void
- **Flammable liquids** Highly flammable liquid and vapour.
- **Flammable solids** Void
- **Self-reactive substances and mixtures** Void
- **Pyrophoric liquids** Void
- **Pyrophoric solids** Void
- **Self-heating substances and mixtures** Void
- **Substances and mixtures, which emit flammable gases in contact with water** Void
- **Oxidising liquids** Void
- **Oxidising solids** Void
- **Organic peroxides** Void
- **Corrosive to metals** Void
- **Desensitised explosives** Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
Warming. A range from approx. 15 Kelvin below the flash point is to be rated as critical.
- **10.3 Possibility of hazardous reactions** Strong exothermic reaction with acids.
- **10.4 Conditions to avoid**
Keep away from open flames, hot surfaces and sources of ignition.
Avoid generating static electricity.
- **10.5 Incompatible materials:**
aluminium
copper
zinc
nickel
alcohols
Aldehyde
strong acids
halogenated hydrocarbons
nitrosing agents
strong oxidants
- **10.6 Hazardous decomposition products:** nitrosamines
- **Additional information:**
Incompatible with:
varous plastics
rubber

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SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Harmful if swallowed, in contact with skin or if inhaled.
- **LD/LC50 values relevant for classification:**
Quantitative data on the toxicological effect of this product are not available.

Components	Type	Value	Species
Oral	LD50	730 mg/kg (rat)	
Dermal	LD50	580 mg/kg (rabbit)	
Inhalative	LC50/4 h	7.22 mg/l (rat)	

- **Primary irritant effect:**
- **Skin corrosion/irritation** Causes severe skin burns and eye damage.
- **Serious eye damage/irritation** Causes serious eye damage.
- **After inhalation:** Strong caustic effect on skin and mucous membranes.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.

Type of test	Effective concentration	Method	Assessment
EC50/72 h	9.8 mg/l (aquatic plants other than algae)		
EC50/48 h	34 mg/l (daphnia magna)		
LC50/48 h	17 mg/l (Aquatic Invertebrata)		
LC50/96 h	24 mg/l (fish)		
NOEC (60 d)	3.2 mg/l (fish)		
NOEC (21 d)	11 mg/l (daphnia magna)		

- **12.2 Persistence and degradability** The product is easily biodegradable.
- **12.3 Bioaccumulative potential**
Due to the distribution coefficient n-octanol/water a worth-mentioning accumulation in organisms is not expected.
- **Bioconcentration factor (BCF)** 0.5 (42 d)
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

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SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Chemicals must be disposed of in compliance with the respective national regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:**
Disposal must be made according to official regulations.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

- | | |
|---|-----------------------------|
| · 14.1 UN number or ID number | UN1296 |
| · ADR, IMDG, IATA | |
| · 14.2 UN proper shipping name | TRIETHYLAMINE |
| · ADR, IMDG, IATA | |
| · 14.3 Transport hazard class(es) | |
| · ADR | |
|  | |
| · Class | 3 (FC) Flammable liquids. |
| · Label | 3+8 |
| · IMDG | |
|  | |
| · Class | 3 Flammable liquids. |
| · Label | 3/8 |
| · IATA | |
|  | |
| · Class | 3 Flammable liquids. |
| · Label | 3 (8) |
| · 14.4 Packing group | |
| · ADR, IMDG, IATA | II |
| · 14.5 Environmental hazards: | Not applicable. |
| · 14.6 Special precautions for user | Warning: Flammable liquids. |
| · Hazard identification number (Kemler code): | 338 |
| · EMS Number: | F-E,S-C |
| · Stowage Category | B |

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· Stowage Code	SW2 Clear of living quarters.
· Segregation Code	SG35 Stow "separated from" SGG1-acids
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1296 TRIETHYLAMINE, 3 (8), II

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Poisons Act**
- **Regulated explosives precursors** Substance is not listed.
- **Regulated poisons** Substance is not listed.
- **Reportable explosives precursors** Substance is not listed.
- **Reportable poisons** Substance is not listed.
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **Seveso category**
H2 ACUTE TOXIC
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (UK REACH)
PNEC: Predicted No-Effect Concentration (UK REACH)
LC50: Lethal concentration, 50 percent

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LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
* **Data compared to the previous version altered.**

Annex: Exposure scenario

- **Short title of the exposure scenario** Formulation and packing/repacking of substances and mixtures
- **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
- **Conditions of use**
- **Duration and frequency** 5 workdays/week.
- **Physical parameters**
- **Physical state** Fluid
- **Concentration of the substance in the mixture** Raw material.
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure** No special measures required.
- **Other operational conditions affecting worker exposure**
Avoid contact with eyes.
Avoid contact with the skin.
Do not breathe gas/vapour/aerosol.
Take precautionary measures against static discharge.
Keep away from sources of ignition - No smoking.
- **Other operational conditions affecting consumer exposure** No special measures required.
- **Other operational conditions affecting consumer exposure during the use of the product**
Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures** No special measures required.
- **Technical protective measures**
Provide explosion-proof electrical equipment.
Ensure that suitable extractors are available on processing machines
- **Personal protective measures**
Do not inhale gases / fumes / aerosols.
Avoid contact with the skin.
Avoid contact with the eyes.
Tightly sealed goggles
Short term filter device:
Filter A-(P2)
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Use suitable respiratory protective device only when aerosol or mist is formed.
Protective gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Measures for consumer protection** Ensure adequate labelling.
- **Environmental protection measures**
- **Water**
Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.

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Trade name: Triethylamine

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- **Disposal measures** Ensure that waste is collected and contained.
- **Disposal procedures**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Waste type** Partially emptied and uncleaned packaging
- **Exposure estimation**
- **Consumer** Not relevant for this Exposure Scenario.
- **Guidance for downstream users** No further relevant information available.

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