

SECTION 1: Product and company identification

Product name : Steam Treat
 Use of the substance/mixture : Water treatment
 Product code : 1928
 Company : Total Solutions
 P.O. Box 240014
 Milwaukee, WI 53224 - USA
 T (414) 354-6417
 Emergency number : Chemtec: (800) 424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Flam. Liq. 4 H227
 Skin Corr. 1B H314
 Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS05

Signal word (GHS-US) : Danger
 Hazard statements (GHS-US) : Combustible liquid
 Causes severe skin burns and eye damage
 Precautionary statements (GHS-US) : Keep away from heat, open flames, sparks. - No smoking
 Do not breathe mist, spray
 Wash thoroughly after handling
 Wear eye protection, protective clothing, protective gloves
 If swallowed: rinse mouth. Do NOT induce vomiting
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
 If inhaled: Remove person to fresh air and keep comfortable for breathing
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a doctor, a POISON CENTER
 Specific treatment (see First aid measures on this label)
 Wash contaminated clothing before reuse
 In case of fire: Use carbon dioxide (CO₂), dry extinguishing powder, foam to extinguish
 Store in a well-ventilated place. Keep cool
 Store locked up
 Dispose of contents/container to comply with local/regional/national/international regulations.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

Full text of H-phrases: see section 16

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
cyclohexylamine	(CAS No) 108-91-8	3-7	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Skin Corr. 1B, H314

Steam Treat

Safety Data Sheet

Name	Product identifier	%	Classification (GHS-US)
2-(diethylamino)ethanol	(CAS No) 100-37-8	1-5	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Corr. 1A, H314

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- First-aid measures after skin contact : Take off immediately all contaminated clothing and wash it before reuse. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention.
- First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. Immediately call a poison center or doctor/physician.
- First-aid measures after ingestion : Fatal if swallowed. Immediately call a poison center or doctor/physician. Rinse mouth. Do NOT induce vomiting. Drink plenty of water.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Causes severe skin burns and eye damage.
- Symptoms/injuries after inhalation : Irritation of the respiratory tract. Nausea. Headache.
- Symptoms/injuries after skin contact : Caustic burns/corrosion of the skin.
- Symptoms/injuries after eye contact : Causes serious eye damage. Corrosion of the eye tissue. Permanent eye damage.
- Symptoms/injuries after ingestion : May be harmful if swallowed. Burns to the gastric/intestinal mucosa.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : All extinguishing media allowed.

5.2. Special hazards arising from the substance or mixture

- Reactivity : Thermal decomposition may produce oxides of carbon and nitrogen.

5.3. Advice for firefighters

- Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers. Take account of environmentally hazardous firefighting water.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Isolate from fire, if possible, without unnecessary risk.

6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Protective goggles. Protective clothing.
- Emergency procedures : Evacuate unnecessary personnel. Avoid contact with skin, eyes and clothing. Ventilate spillage area.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Stop leak if safe to do so. Stop release. Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent soil and water pollution.

6.3. Methods and material for containment and cleaning up

- For containment : Contain released substance, pump into suitable containers.
- Methods for cleaning up : This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Comply with the legal requirements. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not eat, drink or smoke when using this product. Do not get in eyes, on skin, or on clothing.
- Hygiene measures : Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Comply with applicable regulations. Add ALWAYS product to water for dilution/mixture. Never add water to this product.
Storage conditions	: Keep container closed when not in use. Store in original container.
Incompatible products	: acids. Strong oxidizers.
Incompatible materials	: Heat sources.
Heat-ignition	: KEEP SUBSTANCE AWAY FROM: ignition sources. heat sources.
Prohibitions on mixed storage	: KEEP SUBSTANCE AWAY FROM: (strong) acids.
Storage area	: Keep only in the original container. Store in a dry area. Store in a cool area.
Special rules on packaging	: meet the legal requirements.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

cyclohexylamine (108-91-8)		
ACGIH	ACGIH TWA (ppm)	10 ppm
ACGIH	Remark (ACGIH)	URT & eye irr
2-(diethylamino)ethanol (100-37-8)		
ACGIH	ACGIH TWA (ppm)	2 ppm
ACGIH	ACGIH STEL (ppm)	2 ppm
ACGIH	Remark (ACGIH)	URT irr; CNS convul

8.2. Exposure controls

Personal protective equipment : Use appropriate personal protective equipment when risk assessment indicates this is necessary. Gloves. Safety glasses. Protective clothing.



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear, colorless liquid.
Odor	: amine-like
Odor threshold	: No data available
pH	: 11.25 - 12.25
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 154 °F Closed Cup
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: No data available
Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Specific gravity / density	: 0.99 g/ml
Solubility	: Soluble in water.
Log Pow	: No data available
Log Kow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available

Steam Treat

Safety Data Sheet

Viscosity : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
VOC content : ND

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition may produce oxides of carbon and nitrogen.

10.2. Chemical stability

No additional information available

10.3. Possibility of hazardous reactions

Refer to section 10.1 on Reactivity.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Oxidizing agents. acids.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

cyclohexylamine (108-91-8)	
LD50 oral rat	156 - 710 mg/kg
LD50 dermal rabbit	277 - 320 mg/kg
ATE CLP (oral)	500.000 mg/kg body weight
ATE CLP (dermal)	1100.000 mg/kg body weight

2-(diethylamino)ethanol (100-37-8)	
LD50 oral rat	1320 mg/kg (Rat)
LD50 dermal rabbit	1109 mg/kg (Rabbit)

Skin corrosion/irritation : Causes severe skin burns and eye damage.
pH: 11.25 - 12.25

Serious eye damage/irritation : Not classified
pH: 11.25 - 12.25

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Symptoms/injuries after inhalation : Irritation of the respiratory tract. Nausea. Headache.

Symptoms/injuries after skin contact : Caustic burns/corrosion of the skin.

Symptoms/injuries after eye contact : Causes serious eye damage. Corrosion of the eye tissue. Permanent eye damage.

Symptoms/injuries after ingestion : May be harmful if swallowed. Burns to the gastric/intestinal mucosa.

SECTION 12: Ecological information

12.1. Toxicity

2-(diethylamino)ethanol (100-37-8)	
LC50 fish 1	100 - 220 mg/l (96 h; Leuciscus idus)
EC50 Daphnia 1	83.6 mg/l (48 h; Daphnia magna)
LC50 fish 2	1780 mg/l (96 h; Pimephales promelas)

Steam Treat

Safety Data Sheet

2-(diethylamino)ethanol (100-37-8)	
Threshold limit algae 1	30 mg/l (72 h; Scenedesmus subspicatus)

12.2. Persistence and degradability

2-(diethylamino)ethanol (100-37-8)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.002 g O ₂ /g substance
Chemical oxygen demand (COD)	0.76 g O ₂ /g substance

12.3. Bioaccumulative potential

2-(diethylamino)ethanol (100-37-8)	
Log Pow	0.21 - 0.46
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

Department of Transportation (DOT)

Transport document description : UN1760 Corrosive liquids, n.o.s. (diethylethanolamine, cyclohexylamine), 8, II
UN-No.(DOT) : UN1760
Proper Shipping Name (DOT) : Corrosive liquids, n.o.s.
Transport hazard class(es) (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136
Hazard labels (DOT) : 8 - Corrosive



Packing group (DOT) : II - Medium Danger
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242
DOT Symbols : G - Identifies PSN requiring a technical name
DOT Special Provisions (49 CFR 172.102) : B2,IB2,T11,TP2,TP27
DOT Packaging Exceptions (49 CFR 173.xxx) : 154
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 30 L
DOT Vessel Stowage Location : B
DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

Additional information

Other information : No supplementary information available.

ADR

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Steam Treat

Safety Data Sheet

cyclohexylamine (108-91-8)	
Not listed on SARA Section 313 (Specific toxic chemical listings)	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	10000 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	10000 lb

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer and/or reproductive toxicity

SECTION 16: Other information

Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.

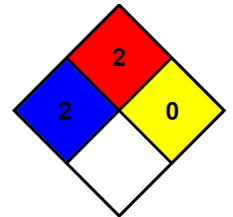
Full text of H-phrases:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Flam. Liq. 3	Flammable liquids Category 3
Flam. Liq. 4	Flammable liquids Category 4
Skin Corr. 1A	Skin corrosion/irritation Category 1A
Skin Corr. 1B	Skin corrosion/irritation Category 1B
H226	Flammable liquid and vapor
H227	Combustible liquid
H302	Harmful if swallowed
H311	Toxic in contact with skin
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H332	Harmful if inhaled

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard : 2 - Must be moderately heated or exposed to relatively high temperature before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



Prepared by: Technical Department

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