ESSENTIAL CHEMISTRY. INNOVATIVE SOLUTIONS.

SAFETY DATA SHEET

Print Date: February 18, 2019

Section 1: Product & Company Information

Product Identifier: **Monoethanolamine**

Other Means of Identification
Product Number: 145000

Recommended Use and Restrictions on Use
Recommended Use: No data available.
Restrictions on Use: No data available.

Manufacturer / Importer / Supplier / Distributor Information

Company Name: CORECHEM Inc.
Address: 4320 Greenway Drive
Knoxville, TN 37918
USA

Information Telephone Number: 1-865-524-4239
Fax Number: 1-865-524-3375
Website: www.corecheminc.com
Contact Person: Regulatory Manager
E-mail: regulatory@corecheminc.com

Emergency Phone Number: Chemtrec® 1-800-424-9300 / Outside USA 1-703-527-3887 *(monitored 24 hours/day)*

Section 2: Hazards Identification

GHS Hazard Classification(s)

In accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012).

Physical Hazard(s)

Flammable, Liquids - 4

Health Hazard(s)

Acute Toxicity, Oral - 4
Acute Toxicity, Dermal - 4
Acute Toxicity, Inhalation - 4
Corrosion/Irritation, Skin – 1B
(Corrosion)Damage/Irritation, Eye - 1
Specific Target Organ Toxicity (STOT)-Respiratory Irritation, Single exposure - 3

Environmental Hazard(s)

Not classified.

Label Elements

Signal Word

DANGER

Hazard Symbol(s)

Hazard Statement(s)

H302: Harmful if swallowed.
H312: Harmful in contact with skin.
H314: Causes severe skin burns and eye damage.
H318: Causes serious eye damage.
H332: Harmful if inhaled.
H335: May cause respiratory Irritation.

Precautionary Statements

General

Not applicable.

Prevention

P260: Do not breathe dust/fume/gas/mist/vapors/spray.
P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
P264: Wash face, hands and any exposed skin thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response

P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P301 + P330 + P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340: IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
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 or doctor/physician.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P321: Specific treatment (see supplemental first aid instructions on this label).
P322: Specific measures (see supplemental first aid instructions on this label).
P330: Rinse mouth.
P363: Wash contaminated clothing before reuse.

Storage

P403 + P233: Store in a well-ventilated place. Keep container tightly closed.

P405: Store locked up.

Disposal

P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC)

None known.

Section 3: Composition/Information on Ingredients

Substance

Chemical Identity [2]	Common Name/Synonym(s)	CAS # [3]	Weight %	Impurity or Stabilizing Additive
Ethanolamine	-	141-43-5	90-100%	No

1. Information regarding the composition and the percent ranges of the mixtures ingredients are not presented as it Confidential Business Information (CBI). Where a medical emergency exists (as determined by medical professional), timely disclosure of CBI is assured. The information omitted pertains to only the names of the substances and the concentration in the mixture (product) and can only be requested by a doctor/physician or Local/State/Provincial or Federal Authority.
2. Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.
3. "—"Indicates ingredient is a mixture and contains multiple ingredients or may have no identifying CAS number.

Section 4: First-Aid Measures

General Information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Wash contaminated clothing before reuse.

Inhalation

Rescuers should put on appropriate protective gear. Remove from area of exposure If not breathing, give artificial respiration. If breathing is difficult give oxygen. Keep Victim warm. Get immediate medical attention. To prevent aspiration, keep head below the knees.

Skin Contact

Immediately flush skin with plenty of water. Remove clothing. Get medical attention promptly. Wash clothing separately and clean shoes before reuse.

Eye Contact

Immediately flush eyes with plenty of water. Flush with water for a minimum of 15 minutes, occasionally lifting and lowering the upper lids. Get medical attention promptly.

Ingestion

If swallowed do NOT induce vomiting. Give victim a glass of water. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Small amounts which accidently enter the mouth should be rinsed out until the taste of it is gone.

Most important symptoms/effects, acute and delayed

Symptoms

Causes severe skin and eye burns. Causes digestive tract burns. Mist or vapor extremely irritating to eyes and respiratory tract.

Indication of immediate medical attention and special treatment needed

Hazards

No data available.

Treatment

Treat symptomatically. Symptoms may be delayed.

Section 5: Fire-Fighting Measures

General Fire Hazards

Combustible Liquid and vapor. Vapors/dust may cause flash fire or explosion. Empty containers retain product residue. (Liquid and/or vapor). and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. Also, do not reuse container without commercial cleaning or reconditioning. Closed containers may explode under extreme heat.

Suitable (and Unsuitable) Extinguishing Media

Suitable Extinguishing Media

Extinguishing powder, alcohol resistant foam, carbon dioxide, water fog

Unsuitable Extinguishing Media

Avoid water in straight hose stream; will scatter and spread fire.

Specific Hazards Arising from the Chemical

Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations. Heat may cause the containers to explode.

Special Protective Equipment and Precautions for Firefighters

Special Fire-Fighting Equipment Procedures

As in any fire, wear self-contained breathing apparatus pressure demand (MSHA/NIOSH) approved or equivalent. And full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Water spray to cool containers or protect personnel. Use with caution. Avoid use of solid water streams. Water may be ineffective.

Special Protective Equipment for Fire-Fighters

As in any fire, wear self-contained breathing apparatus pressure-demand (OSHA/NIOSH approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Use personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment. Keep unauthorized personnel away. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Evacuate area.

Methods and Materials for Containment and Clean-Up

Absorb spill with inert material. (e.g. dry sand or earth), then place into a chemical waste container. Avoid runoff into storm sewers and ditches which lead to waterways. Use only noncombustible materials for cleanup. Use clean, non-sparking tools to collect absorbed materials. Eliminate all ignition sources. Prevent additional discharge of material if able to do so safely. Flush spill area with water spray after cleanup. Do not touch or walk through spilled material. Stay upwind of spill. Ventilate spill area. Collect Spilled materials for disposal. Wear appropriate personal protective equipment (See exposure controls/personal protection section).

Notification Procedures

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions

Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Section 7: Handling and Storage

Precautions for Safe Handling

Use only in a well-Ventilated area. Follow all MSDS/Label precautions even after containers are emptied because they may retain product residues. Avoid contact with eyes, skin, and Clothing. When transferring, follow proper grounding procedures. Use Spark-resistant tools. Do not load into compartments adjacent to heated cargo. Avoid breathing Vapor, fumes or mist. Use explosion proof equipment.

Conditions for Safe Storage, including any Incompatibilities

Containers can build up pressure if exposed to heat (Fire) Keep away from heat, sparks and flames. Keep container closed when not in use. Protect from direct sunlight. Store containers In a cool, well ventilated place.

Section 8: Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Value	Source
Ethanolamine	TWA	3 ppm	US. ACGIH Threshold Limit Values
Ethanolamine	STEL	6 ppm	US. ACGIH Threshold Limit Values
Ethanolamine	PEL	3 ppm 6 mg/m3	US OSHA Table Z-1

Biological Limit Values

The product does not contain any relevant quantities of hazardous materials with assigned biological limit values.

Appropriate Engineering Controls

No data available.

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

General Information

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/Face Protection

Wear safety glasses with side shields (or goggles) and a face shield. Wear a full-face respirator, if needed.

Skin Protection

Hand Protection

Wear impervious gloves to prevent contact with the skin. Where splashing is possible, full chemically resistant protective clothing (e.g. acid suit) and boots are required. Wear protective gear as needed- apron, suit, boots.

Other

Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.

Respiratory Protection

A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Hygiene Measures

Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and wash before reuse. Avoid breathing vapors. Do not eat, drink, or smoke in areas where this material is used.

Section 9: Physical and Chemical Properties

Appearance:
- Physical State: Liquid
- Color: Colorless

Odor: Amine like
Odor Threshold: >0.01 ppm
pH: 12.1
Melting Point/Freezing Point: 10.3 °C
Initial Boiling Point and Boiling Range: 333-342 °F
Flash Point: 186 °F (Closed Cup)
Evaporation Rate (butyl acetate=1)**:** Less than 0.01
Flammability (solid, gas): No data available.
Upper/Lower Limit on Flammability or Explosive Limits
- Flammability Limit – Upper: No data available.
- Flammability Limit – Lower: No data available.
- Explosive Limit – Upper: No data available.
- Explosive Limit – Lower: No data available.

Vapor Pressure: 0.5 mbar @ 20 °C
Density, g/cm3 1.016
Relative Density (water=1)**:** 1.02 (20 °C)
Solubility(ies):
- Solubility in water: Completely soluble
- Solubility (other): No data available.

Partition coefficient (n-octanol/water): -1.31
Auto-Ignition Temperature: 770 °F.

Decomposition Temperature: No data available.
Viscosity: No data available.

Other Information:
Molecular Weight: 61.08 g/mol
Formula: C_2H_7NO

Section 10: Stability and Reactivity

Reactivity
No dangerous reaction known under conditions of normal use.

Chemical Stability
Material is stable under normal conditions.

Possibility of Hazardous Reactions
Hazardous polymerization does not occur.

Conditions to Avoid
Avoid impact, friction, heat, sparks, flame and source of ignition.

Incompatible Materials
Keep away from acids. Prevent contact with strong oxidizing agents. Prevent contact with halogens. Avoid Contact with metals.

Hazardous Decomposition Products
During Combustion Carbon monoxide may be formed. During Combustion Carbon dioxide may be formed. Decomposition releases nitrogen oxides.

Section 11: Toxicological Information

Information on routes of exposure

Ingestion: Harmful if swallowed. Corrosive and may cause severe and permanent damage to mouth, throat, and stomach. May cause nausea, diarrhea, and/ or vomiting.
Inhalation: Harmful if inhaled. Causes delayed lung injury. Can cause pulmonary edema. Vapors can cause irritation to the respiratory tract. Repeated or prolonged exposure may cause liver and kidney damage.
Skin Contact: Corrosive. Causes burns and permanent skin damage (Scaring.)
Eye Contact: Corrosive. Can cause eye burns and permanent tissue damage. Contact can cause possible blindness. Causes the following effects: Discomfort, pain, excess blinking, tear production, marked excess redness of the conjunctivae, swelling of the conjunctivae, chemical burns of the cornea, Corneal injury may be severe, extensive and if not treated promptly could result in permanent impairment of vision.

Information on Toxicological Effects

Acute Toxicity (List all possible routes of exposure)

Oral
Monoethanolamine: LD 50 (Rat): 1,515 mg/kg

Dermal
Monoethanolamine: LD 50 (Rabbit): >1000 mg/kg

Inhalation
Monoethanolamine: LC50: > 10 mg/l

Repeated Dose Toxicity
No data available.

Skin Corrosion/Irritation
Causes severe skin burns.

Serious Eye Damage/Eye Irritation
Causes serious eye damage.

Respiratory/Skin Sensitization
Not a skin sensitizer.

Carcinogenicity

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
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.

US. National Toxicology Program (NTP) Report on Carcinogens
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.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

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.

Germ Cell Mutagenicity

In Vitro

No mutagenic components identified.

In Vivo

No mutagenic components identified.

Reproductive Toxicity

None known.

Specific Target Organ Toxicity – Single Exposure

Respiratory tract irritation.

Specific Target Organ Toxicity – Repeated Exposure

No data available.

Aspiration Hazard

Not classified.

Other Effects

None known.

Section 12: Ecological Information

Ecotoxicity

Acute Hazards to the Aquatic Environment

Fish

Ethanolamine: LC 50 (Rainbow trout, donaldson trout (Oncorhynchus mykiss), 96 h): 114 - 196 mg/l Mortality
Ethanolamine: LC 50 (Fathead minnow (Pimephales promelas), 96 h): 1,810 - 2,370 mg/l Mortality
Ethanolamine: LC 50 (Bluegill (Lepomis macrochirus), 96 h): 329.16 mg/l Mortality

Aquatic Invertebrates

Ethanolamine: LC 50 (Water flea (Daphnia magna), 24 h): 140 mg/l Mortality
Ethanolamine: LC 50 (Common shrimp, sand shrimp (Crangon crangon), 48 h): > 100 mg/l Mortality

Toxicity to Aquatic Plants

No data available.

Chronic Hazards to the Aquatic Environment

Fish

No data available.

Aquatic Invertebrates

No data available.

Toxicity to Aquatic Plants

No data available.

Persistence and Degradability

Biodegradation

There are no data on the degradability of this product.

BOD/COD Ratio

No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

Log Kow: -1.31

Mobility in Soil

No data available.

Other Adverse Effects

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Section 13: Disposal Considerations

Disposal Instructions

Dispose of waste in accordance with all local, state and federal regulations. Absorb spill wit inert materials (e.g. dry sand or earth) then place in a chemical waste container. Avoid runoff into storm sewers and ditches which lead to waterways. Use only non-combustible materials for cleanup. Use clean non-sparking tools to collect absorbed materials. Eliminate all ignition sources. Prevent additional discharge of material if able to do so safely. Flush spill area with water spray after cleanup. Do not touch or walk through spilled material. Stay upwind of the spill. Ventilate spill area. Collect spilled material for disposal. Wear appropriate personal protective equipment (See exposure controls/Personal Protection Section)

Contaminated Packaging

Handle contaminated packages in the same way as the substance itself. Emptied containers may retain hazardous residue and explosive vapors. Keep away from heat, sparks, and flames. Do not cut, puncture, or weld on or near this container. Follow label warnings until container is thoroughly cleaned or destroyed.

Section 14: Transportation Information

US Department of Transportation (DOT)

UN Number:	UN2491
UN Proper Shipping Name:	Ethanolamine
Technical Name:	-
Hazard Class:	8
Subsidiary Hazard Risk:	-
Packing Group:	III
DOT Label/Placard Exemptions:	Not determined
Special Provisions:	IB3, T4, TP1
Packaging Exceptions:	49CFR 173.154
Packaging Non-Bulk:	49CFR 173.203
Packaging Bulk:	49CFR 173.241
Reportable Quantity (RQ):	None
Marine Pollutant:	No
Poison Inhalation Hazard:	No
Special precautions for user:	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Emergency Response Guidebook (ERG) #:	153

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

Section 15: Regulatory Information

US Federal Regulations

Toxic Substance Control Act (TSCA), Chemical Substance Inventory, Section 8(b)

This product or ingredient(s) are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substance List (40 CFR 302.4)

No chemical(s) in this material are subject to the reporting requirements of CERCLA.

Clean Air Act (CAA), Section 112(r)

No chemical(s) in this material are subject to the reporting requirements of CAA.

Emergency Planning and Community Right-To-Know Act (EPCRA)

EPCRA 302 Extremely Hazardous Substance

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 302.

EPCRA 304 Emergency Response Notification

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 304.

EPCRA 311/312 Emergency and Hazardous Materials Reporting

Fire Hazard:	Yes
Sudden Release of Pressure:	No
Reactive:	No
Acute (Immediate) Health Hazard:	Yes
Chronic (Delayed) Health Hazard:	Yes

EPCRA 313 Toxic Chemical Release Inventory (TRI) Reporting

This material does not contain any chemical(s) with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

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

Important Note: Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the information for their particular purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

Section 16: Other Information

Hazardous Materials Identification System (HMIS®) Classification

Health Hazard: 3
Chronic Health Hazard: *
Flammability: 2
Physical Hazard: 0
(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

National Fire Protection Association (NFPA 704) Rating

Health Hazard: 3
Fire Hazard: 2
Reactivity Hazard: 0
Special: N/A
(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

Prepared By: Regulatory Manager
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Revisions: 01

Key to Abbreviations and Acronyms

ATE - Acute Toxicity Estimate
BCF - Bioconcentration Factor
EC50 - Effective concentration, 50%
IDHL – Immediately Dangerous to Life and Health
Kg – Kilogram
l – Liter
lb – Pound
LC50 - Lethal Concentration, 50%
LD50 - Lethal Dose, 50%
mg - milligram
ml – milliliter
N/A – Not Applicable
N/D – Not Determined
PEL – Permissible Exposure Limit
REL – Recommended Exposure Limit
STEL – Short-term Exposure Limit
TWA - Time weighted average
ACGIH - American Conference of Industrial Hygienists
AIHA – American Industrial Hygiene Association
BEI - Biological Exposure Indices
CAS – Chemical Abstracts Service
DOT – US Department of Transportation
EPA – US Environmental Protection Agency
GHS - Globally Harmonized System of Classification and Labelling of Chemicals
IARC - International Agency for Research on Cancer
IATA - International Air Transport Association
IBC - Intermediate Bulk Container
IMDG - International Maritime Dangerous Goods
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OSHA – US Occupational Health and Safety Administration
SARA – US EPA Superfund Amendments and Reauthorization Act
TSCA – US EPA Toxic Substances Control Act
UN - United Nations

References

HSDB® - Hazardous Substances Data Bank

Disclaimer

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