SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION

Product Identifier: Chemstream FA-225HP

Manufactured by: Chemstream, Inc.
511 Railroad Avenue
Homer City, PA 15748

24 Hour Emergency Phone: **(724) 915-8388**

CHEMTREC: **(800) 424-9300**

Recommended use: Water Treatment – Boiler

SECTION 2 – HAZARDS IDENTIFICATION

Hazard Classification: This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard (29 CFR 1910.1200)

Health hazards:

Acute Toxicity, Oral:	Category 4
Skin Corrosion/Irritation:	Category 1B
Specific target organ toxicity (Respiratory Tract): (single exposure)	Category 1
Aquatic Chronic Toxicity:	Category 3

OSHA defined hazards: Not classified.

Label elements:

Signal word: Danger

Hazard statements:
H302: Harmful if swallowed.
H314: Causes severe skin burns and eye damage.
H335: May cause respiratory irritation.
H412: Harmful to aquatic life with long lasting effects.

Prevention:
P264: Wash hands / exposed skin thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response:
P301+P330+ P331+P312: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell.
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 victim 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. P363: Wash contaminated clothing before reuse. Collect spillage.
Storage:	P405: Store locked up.
Disposal:	P501: Dispose of contents/container at a disposal facility in accordance with local regulations.
Hazard(s) not otherwise classified (HNOC):	Not classified.

For detailed toxicological information see Section 11.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS No.	% by wt.
2-Aminoethanol	141-43-5	10 - 25
Cyclohexylamine	108-91-8	0 – 3.0
1-Dimethylaminopropan-2-ol	108-16-7	2.5 – 10.0
2-Diethyaminoethanol	100-37-8	0 – 2.5
Fatty Amine	7173-62-8	0 – 2.5
Water	7732-18-5	Balance

SECTION 4 – FIRST AID MEASURES

Eye Contact: Wash thoroughly with soft, clean water for 15 minutes holding the eyelids open. If the casualty wears contact lenses, these should be removed before cleaning. Regardless of the initial state and after cleaning, refer the patient to an ophthalmologist with the SDS.

Skin Contact: Remove any soiled or splashed clothing immediately. Watch out for any remaining product between skin and clothing, watches, shoes, etc... Wash immediately the skin thoroughly with plenty of soap and water or a recognized cleaner. If the contaminated area is widespread and/or there is damage to the skin, a doctor must be consulted or the patient transferred to hospital. In case of allergic reaction, seek medical advice.

If Inhaled: In the event of massive inhalation, remove the person exposed to fresh air. Keep warm and at rest. If the person is unconscious, place in recovery position. Notify a doctor in all events, to ascertain whether observation and supportive hospital care will be necessary. If breathing is irregular or has stopped, effect mouth-to-mouth resuscitation and call a doctor.

If Swallowed: Do not induce vomiting. Do not give the patient anything orally. In case of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water, administer activated medical charcoal and consult a doctor. Immediately call a doctor and show him the label. Seek medical attention immediately, showing the label. In case of accidental ingestion call a doctor to assess the appropriateness of monitoring or for a hospital treatment, if necessary. Show the label.

Most important symptoms/effects, acute and delayed: No data available.

Indication of immediate medical attention and special treatment needed: No data available.

SECTION 5 – FIRE FIGHTING MEASURES

Flammable Properties: Non-flammable product.

Extinguishing Media: Use dry chemicals, foam, water mist, or carbon dioxide.

Special Firefighting Procedures: Due to the toxicity of the gas emitted on thermal decomposition of the products, fire-fighting personnel are to be equipped with autonomous insulating breathing apparatus. Evacuate area, cool exposed containers with water spray or fog. Use caution when fighting any chemical fire. Prevent fire-fighting wastewater from contaminating the environment.

Unusual Fire and Explosive Hazards: A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health. Do not breathe in smoke. Thermal decomposition may release/form: Carbon monoxide (CO), carbon dioxide (CO2), NOx, nitrous vapors and NH_3.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Consult the safety measures listed under headings 7 and 8. For non-firefighters: Avoid any contact with the skin and eyes. Wear protective clothing, gloves and protective equipment and eye / face (e.g. visor). If a large quantity has been spilt, evacuate all personnel and only allow intervention by trained operators equipped with safety apparatus. If vapors are present, wear a breathing apparatus. For firefighters: Firefighters will be equipped with suitable personal protective equipment (See section 8).

Spill or Leak Procedures: Prevent any pure product from entering waterways (rivers, soil, ...) and drains. If the product contaminates waterways, rivers or drains, alert the relevant authorities in accordance with statutory procedures. Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite diatomaceous earth in drums for waste disposal. Flush the area with plenty of water.

Review each section of this SDS before responding to a spill or leak of this product. For detailed disposal information see section 13.

SECTION 7 - HANDLING AND STORAGE

Handling: Comply with current legislation on the prevention of occupational risks. Always wash hands after handling. Remove and wash contaminated clothing before reusing. Emergency showers and eye wash stations will be required in facilities where the mixture is handled constantly. Keep chemical handling and storage areas clean and tidy.
Fire prevention: Handle in well-ventilated areas. Prevent access by unauthorized personnel.
Recommended equipment and procedures: For personal protection, see section 8. Observe precautions stated on label and industrial safety regulations. Avoid inhaling vapors. Provide vapor extraction at the emission source and general ventilation of the premises.

Prohibited equipment and procedures: No smoking, eating or drinking in areas where the mixture is used.

Do not reuse containers. Empty containers retain product residues and can be hazardous. Follow all SDS precautions when handling empty containers.

Conditions for Safe Storage: Hazardous reactions with strong oxidizing agents, strong acids and organic halogen compounds.

Storage: Keep away from food and drink, including those for animals. Keep the container tightly closed and in a well-ventilated place. Protect from frost (between 5°C and 35°C). However, if product is frozen, it finds all its characteristics after reheating. Provide a retention tank adapted.
Packaging: Always keep in packaging made of an identical material to the original.
Recommended packing: High Density Polyethylene (PEHD), glass.
Unsuitable packaging: Alloys of copper and aluminum.
Shelf-Life: 3 months at 5 - 30°C.

Other Precautions: Eyewash and safety showers are recommended in the immediate work area. Check with your state OSHA to determine the need and maximum distance for stations to be placed in regards to possible chemical exposure.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal Protective Equipment: Take all precautions to prevent skin contact. Chemical safety goggles / full-face shield and neoprene or other chemical resistant gloves are required. Impervious clothing (aprons, arm covers) and rubber boots are strongly recommended to prevent skin contact. Additional protection such as full body suit may be required depending on conditions.

Respiratory protection is not normally required. However, it may be necessary in areas of high vapor concentration or in areas with little or no ventilation. Always wear NIOSH approved respiratory protective equipment where there may be potential for airborne exposure.

Engineering Controls: Local exhaust or general mechanical ventilation (explosion proof) as required to minimized exposure or to maintain exposure levels per OSHA/ACGIH requirements.

General Work Practices: Eye wash fountains and safety showers in the work place are strongly recommended. Do not eat, drink, or smoke in areas where chemicals are being stored or handled. Wash thoroughly before handling food or beverages.

Occupational Exposure Limits: No ACGIH TLV or OSHA PEL have ben assigned to this mixture.

Components with workplace control parameter

Substance	2-Aminoethanol		
CAS No.	141-43-5		
	Type	ppm	mg/m³
USA - NIOSH	REL	3	8
	STEL	6	15
	PEL	3	6
Substance	2-Diethyaminoethanol		
CAS No.	100-37-8		
USA - NIOSH	PEL	10	50
	REL	10	50
Substance	1-Dimethylaminopropan-2-ol		
CAS No.	108-91-8		
USA - NIOSH	REL	10	40

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colorless to pale yellow liquid
Odor	Amino
Odor Threshold	Not available
pH	11.6 - 12.6
Melting / Freezing Point (˚C)	5°F (-15°C)
Initial Boiling Point / Range	212˚F (100˚C) estimated
Flash Point (˚C)	>200.0°F (>93.3°C)
Evaporation Rate (Water=1)	Not available
Flammability	Not available
Lower Flammability Limit (%)	Not available
Lower Flammability Limit (%)	Not available
Vapor Pressure (kPa at 20(˚C)	Not available
Vapor Density (Air = 1)	Not available
Relative Density at 25˚C (Specific Gravity of water = 1)	0.98 – 1.02 (8.17 – 8.51 lbs./gal.)
Solubility in Water	Miscible
Octanol / Water Partition Coefficient (log Kow)	Not available
Autoignition Temperature (˚C)	>212°F (>100°C)
Decomposition Temperature (˚C)	Not available
Viscosity (dynamic)	Not available
% Volatile (by volume)	Not available
VOC (%)	Not available
Explosive Properties	No hazards to be specially mentioned.
Oxidizing Properties	Not available
Metal Corrosion Rate	Not available

NOTE: The above represents typical values and should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

SECTION 10 - STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions of storage, handling, and use.

Conditions to Avoid: Protect from freeze (=<5°F, -15°C).

Materials to Avoid: Strong oxidizing agents, reducing agents, strong acids and organic halogen compounds.

Hazardous Byproducts: Carbon oxides, nitrogen oxides and NH_3.

Possibility of Hazardous Reactions: Under normal conditions, the mixture is not likely to react or polymerize by releasing excess pressure or heat or by generating other hazardous conditions.

SECTION 11 - TOXICOLOGICAL INFORMATION

Mixture: No experimental data on the mixture and its toxicological properties are available. Its classification gives: Harmful if swallowed. Causes severe skin burns and eye damage. May cause respiratory irritation.
Carcinogenicity: Not classified.
Mutagenicity: Not classified.

Suspected of causing reproductive harm: Not classified

Acute Toxicity:

Substance	2-Aminoethanol	
CAS No.	141-43-5	
LD_{50} Oral	**LC_{50} Inhalation**	**LD_{50} Dermal**
1,089 – 1,515 mg/kg (Rat)	1.3 mg/L (air) (Rat)	2,504 – 2,881 mg/kg (Rat)
Substance	Cyclohexylamine	
CAS No.	108-91-8	
LD_{50} Oral	**LC_{50} Inhalation**	**LD_{50} Dermal**
432 mg/kg (Rat)	--	275 mg/kg (Rat)
Substance	1-Dimethylaminopropan-2-ol	
CAS No.	108-16-7	
LD_{50} Oral	**LC_{50} Inhalation**	**LD_{50} Dermal**
1,360 mg/kg (Rat)	--	1,232 – 1,310 mg/kg (Rat)
Substance	2-Diethylaminoethanol	
CAS No.	100-37-8	
LD_{50} Oral	**LC_{50} Inhalation**	**LD_{50} Dermal**
1,320 mg/kg (Rat)	4.6 mg/L (air) (Rat)	885 mg/kg (Guinea pig) 1,100 mg/kg (Rabbit)
Substance	Fatty Amines	
CAS No.	7173-62-8	
LD_{50} Oral	**LC_{50} Inhalation**	**LD_{50} Dermal**
500 mg/kg (Rat)	--	--

Skin corrosion/irritation
Result: Causes severe skin burns or irritation.

Serious eye damage/eye irritation
Remarks: Causes serious eye damage. Sodium hydroxide is corrosive to the eyes and skin.

Respiratory or skin sensitization:
Remarks: No data available

Germ cell mutagenicity
Genotoxicity in vitro: Remarks: no data available

Carcinogenicity
Result: no data available

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.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

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.

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.

Reproductive toxicity
Effects on fertility: Remarks: no data available

STOT - single exposure
Remarks: no data available

STOT - repeated exposure
Remarks:

Component/Mixture	NOAEL	NOEC	LOAEL
2-Aminoethanol (CAS No. 141-43-5)	Oral - 300 mg/kg per day (Rat) Inhalation – 10 mg/kg (Rabbit)	150 mg/m^3 (air) (Rat)	--
Cyclohexylamine (CAS No. 108-91-8)	Oral - 15 mg/kg per day (Rat) Oral – 1,000 mg/kg (Mouse)	--	600 ppm (Rat)
1-Dimethylaminopropan-2-ol (CAS No. 108-16-7)	Oral – 120- 240 mg/kg (Rat)	--	240 mg/kg (Rat)
2-Diethylaminoethanol (CAS No. 100-37-8)	Oral – 50 – 400 mg/kg (Rat)	--	120 mg/m^3 (air) (Rat)
Fatty Amine (CAS No. 7173-62-8)	0.4 mg/kg (Rat)	--	--

Aspiration toxicity: No aspiration toxicity classification
Further information Remarks: No data available

Further information
Remarks: The product causes burns of eyes, skin, and mucous membranes.

SECTION 12 - ECOLOGICAL INFORMATION

Aquatic Acute Toxicity: Ceriodaphnia dubia ACUTE RESULTS: LC50= 7.90 mg/L - 48 Hours

Substance(s):
2-aminoethanol (CAS No. 141-43-5)

Fish Toxicity
LC50 = 170 mg/L (Carassius auratus) - 96 Hours (OECD Guidelines (APHA 1971)).
LC50 = 349 mg/L (Cyprinus carpio) - 96 Hours (OECD Guidelines (92/69/CEE)).
NOEC = 1,2 mg/L (Oryzias latipes) - 30 Days.
Crustacean/Invertebrate Toxicity
EC50 = 65 mg/L (Daphnia magna) - 48 Hours.
NOEC = 0,85 mg/L (Daphnia magna) - 21 Days (OECD Guidelines (OCDE 211)).
Bacteria Toxicity
EC20 = > 1000 mg/L (Boues activées) - 30 Minutes (OECD Guidelines (OCDE 209)).
EC50 = 110 mg/L (Pseudomonas putida) - 16 Hours (OECD Guidelines (DIN 38412)).
EC50 = > 1000 mg/L (Boues activées) - 3 Hours (OECD Guidelines (OCDE 209)).
Algae Toxicity
EC50 = 22 mg/L (Scenedesmus subspicatus) - 72 Hours.
EC50 = 2,5 mg/L (Scenedesmus subspicatus) - 72 Hours (OECD Guidelines (OCDE 201)).

Cyclohexylamine (CAS No. 108-91-8)
Fish Toxicity

LC50 = 19 mg/L – 14 Days.
Short–term toxicity to fish: LC50 = 19 - 100 mg/L - 14 Days.

Microorganism Toxicity
EC50 = 2.152 g/L - 3 Hours.
EC50 = 326 mg/L – 3 Hours.
Crustacean/Invertebrate Toxicity
EC50 = 40,4 mg/L (Ceriodaphnia) - 48 Hours.
Short–term toxicity to aquatic invertebrates: EC50 = 36.3 mg/L - 48 Hours.
Long–term toxicity to aquatic invertebrates: NOEC = 1.6 mg/L - 21 Days.
Long–term toxicity to aquatic invertebrates: EC50 = 3.9 mg/L - 21 Days.
Long–term toxicity to aquatic invertebrates: LC50 = 24.2 mg/L - 21 Days.
Algae Toxicity
Toxicity to aquatic algae and cyanobacteria: EC50 = 29.3 mg/L (Selenastrum capricormutum) - 72 Hours.
Toxicity to aquatic algae and cyanobacteria: NOEC = 10.3 mg/L - 72 Hours.

1-Dimethylaminopropan-2-ol (CAS No. 108-16-7)

Fish Toxicity
Fish: LC50 = 148,32 mg/L (Leuciscus idus) - 96 Hours (OECD Guidelines (DIN 38412)).
Short–term toxicity to fish: LC50 = 148.32 mg/L - 4 Days.
Short–term toxicity to fish: LC0 = 100 mg/L - 4 Days.
Short–term toxicity to fish: LC10 = 215 mg/L - 4 Days.
Short–term toxicity to fish: NOEC = 100 - 1 000 mg/L - 4 Days.
Microorganism Toxicity
Toxicity to microorganisms: EC50 = 1 g/L - 30 Minutes.
EC20 = > 1 000 mg/L (Boues activées) - 30 Minutes (OECD Guidelines (OCDE 209)).
Crustacean/Invertebrate Toxicity
EC50 = 79 mg/L (Daphnia magna) - 48 Hours (OECD Guidelines (DIN 38412)).
Algae Toxicity
Algae: EC50 = 77,4 mg/L (Scenedesmus subspicatus) - 72 Hours (OECD Guidelines (DIN 38412)).
Algae: EC10 = 42 mg/L (Scenedesmus subspicatus) - 72 Hours (OECD Guidelines (DIN 38412)).
Toxicity to aquatic algae and cyanobacteria: EC50 = 77.4 - 83.4 mg/L - 72 Hours.
Toxicity to aquatic algae and cyanobacteria: EC10 = 42 - 43.4 mg/L - 72 Hours.

2-Diethylaminoethanol (CAS No. 100-37-8)

Fish Toxicity
Fish: LC50 = 147 mg/L (Leuciscus idus melanotus) - 96 Hours (OECD Guidelines (DIN 38412)).
Short–term toxicity to fish: LC50 = 147 - 1 000 mg/L - 4 Days.
Short–term toxicity to fish: LC10 = 215 mg/L - 4 Days.
Short–term toxicity to fish: NOEC = 100 mg/L - 4 Days.
Crustacean/Invertebrate Toxicity
EC50 = 165 mg/L (Daphnia magna) - 48 Hours (OECD Guidelines (OCDE 202)).
EC50 = 83,6 mg/L (Daphnia magna) - 48 Hours (OECD Guidelines (Directive 67/548/CEE)).
Short–term toxicity to aquatic invertebrates: EC50 = 83.6 - 165 mg/L - 48 Hours.
Short–term toxicity to aquatic invertebrates: EC50 = 304 mg/L - 24 Hours.
Short–term toxicity to aquatic invertebrates: EC0 = 62.5 mg/L - 48 Hours.
Short–term toxicity to aquatic invertebrates: EC10 = 250 mg/L - 48 Hours.
Microorganism Toxicity
EC20 = > 1000 mg/L (Boues activées) - 30 Minutes (OECD Guidelines (OCDE 209)).
Algae Toxicity
EC50 = 44 mg/L (Desmodesmus subspicatus) - 72 Hours (OECD Guidelines (DIN 38412)).
Toxicity to aquatic algae and cyanobacteria: EC50 = 28 - 62.3 mg/L - 72 Hours.
Toxicity to aquatic algae and cyanobacteria: NOEC = 5 - 10 mg/L - 72 Hours.

Toxicity to aquatic algae and cyanobacteria: EC10 = 7.6 - 21.4 mg/L - 72 Hours.

Fatty Amines (CAS No. 7173-62-8)

Sediment Toxicity
NOEC = 180 - 360 mg/kg sediment dw - 28 Days.
EC10 = 86 - 237 mg/kg sediment dw - 28 Days.
LC50 = 433 mg/kg sediment dw - 10 Days.
Fish Toxicity
EC50 = 0,148 mg/L (Danio rerio) - 96 Hours (OECD Guidelines (OCDE 203)).
Short–term toxicity to fish: LC50 = 80 - 148 µg/L - 4 Days.
Short–term toxicity to fish: LC0 = 100 µg/L - 4 Days.
Short–term toxicity to fish: LC10 = 220 µg/L - 4 Days.
Short–term toxicity to aquatic invertebrates: EC50 = 290 µg/L - 21 Days.
Short–term toxicity to aquatic invertebrates: EC50 = 6.2 µg/L - 48 Hours.
Microorganism Toxicity
EC50 = 66 mg/L - 3 Hours.
LC50 = 25,1 mg/L (Boues activées) (OECD Guidelines (OCDE 209)).
Crustacean/Invertebrate Toxicity
Long–term toxicity to aquatic invertebrates: NOEC = 100 - 1 000 µg/L - 21 Days.
Long–term toxicity to aquatic invertebrates: LOEC = 320 µg/L - 21 Days.
Long–term toxicity to aquatic invertebrates: EC50 = 290 µg/L - 21 Days.
EC50 = 0,029 mg/L (Daphnia magna) - 21 Days (OECD Guidelines (OCDE 211)).
NOEC = 1 mg/L (Daphnia magna) - 21 Days (OECD Guidelines (OCDE 211)).
Algae Toxicity
Toxicity to aquatic algae and cyanobacteria: EC50 = 507 µg/L - 72 Hours.
Toxicity to aquatic algae and cyanobacteria: EC10 = 188 µg/L - 72 Hours.
EC50 = 0,050 mg/L (Desmodesmus subspicatus) - 72 Hours (OECD Guidelines (OCDE 201)).
EC10 = 0,188 mg/L (Desmodesmus subspicatus) - 72 Hours (OECD Guidelines (OCDE 201)).

Ecotoxicology Assessment
Acute aquatic toxicity: Harmful to aquatic life.
Chronic aquatic toxicity: Harmful to aquatic life with long lasting effects.

Persistence and Degradability
Mixture: Classified as cationic surface-active agent, considered as more than 90 % biodegradable.

Substances:

2-aminoethanol (CAS No. 141-43-5):	90% biodegraded (20 mg/L - 21 days).
Cyclohexylamine (CAS No. 108-91-8):	>90% (Exposure time: 20 days) (OECD guidelines 301D) – Readily biodegradable
1-Dimethylaminopropan-2-ol (CAS No. 108-16-7):	Readily biodegradable
2-Diethylaminoethanol (CAS No. 100-37-8):	Readily biodegradable
Fatty Amines (CAS No. 7173-62-8):	No data available.

Bioaccumulative Potential
Mixture: No data available

Substances:

2-aminoethanol (CAS No. 141-43-5):	LOW POW = 1.131 FBC = 3 Low
Cyclohexylamine (CAS No. 108-91-8):	BCF = 2.8
1-Demethylaminopropan-2-ol (CAS No. 108-16-7)	Because of the n-octanol/water distribution

	coefficient (log Pow) accumulation in organisms is not to be expected.
2-Diethylaminoethanol (CAS No. 100-37-8)	BCF < 6.1: Does not show bioaccumulation.
Fatty Amines (CAS No. 7173-62-8):	No data available.

Mobility in Soil: No information available.
Mixture: No data available

Substances:

2-aminoethanol (CAS No. 141-43-5):	Henry = 3.75 x 10^{-5} Pa.m^3/mol Koc = 0.27 Very high
Cyclohexylamine (CAS No. 108-91-8):	No data available
1-Demethylaminopropan-2-ol (CAS No. 108-16-7)	No data available
2-Diethylaminoethanol (CAS No. 100-37-8)	The substance does not evaporate into the atmosphere from surface waters, and is not expected to be absorbed by the soil.
Fatty Amines (CAS No. 7173-62-8):	No data available.

Results of PBT and vPvB Assessments
The mixture does not contain any substances that meet the criteria for persistent, bioaccumulative and toxic (PBT) / persistent and very bioaccumulative (vPvB) substances.

Endocrine Disrupting Properties
On the basis of the evidence available to us, the mixture does not contain any substances that meet the criteria for endocrine disrupting properties.

Other adverse effects: No data available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Treatment Methods: Do not pour into drains or waterways.
Waste: Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil,
plants or animals. Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company. Do not contaminate the
ground or water with waste, do not dispose of waste into the environment. At normal dose rate, will be assimilated in physico-chemical or biological wastewater treatment plants after acclimatization.

Container disposal:
Non-refillable container - Do not reuse empty container. Empty container completely. Keep label(s) on container. Give to a certified disposal contractor.

SECTION 14 - TRANSPORT INFORMATION

United States Department of Transportation (DOT):

UN Number:	UN2735
Proper Shipping Name:	AMINES LIQUID CORROSIVE, N.O.S. (2-AMINOETHANOL, 1-DIMETHYLAMINOPROPAN-2-OL)
Hazard Class:	8
Packing Group:	II
Environmental Hazards:	No

International Maritime Organization (IMDG):

UN Number:	UN2735
Proper Shipping Name:	AMINES LIQUID CORROSIVE, N.O.S. (2-AMINOETHANOL, 1-DIMETHYLAMINOPROPAN-2-OL)
Hazard Class:	8
Packing Group:	II
EmS:	F-A, S-B
Environmental Hazards:	Marine pollutant: No

International Air Transportation Association (IATA):

UN Number:	UN2735
Proper Shipping Name:	AMINES LIQUID CORROSIVE, N.O.S. (2-AMINOETHANOL, 1-DIMETHYLAMINOPROPAN-2-OL)
Hazard Class:	8
Packing Group:	II
Environmental Hazards:	No

International Carriage by Rail/Road (RID/ADR):

UN Number:	UN2735
Proper Shipping Name:	AMINES LIQUID CORROSIVE, N.O.S. (2-AMINOETHANOL, 1-DIMETHYLAMINOPROPAN-2-OL)
Hazard Class:	8
Packing Group:	II
Classification Code:	C7
Hazard Identification Number	80
ADR/RID Labels:	8
Environmental Hazards:	No

Special precautions for user:	None
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable

SECTION 15 - REGULATORY INFORMATION

INTERNATIONAL CHEMICAL REGISTRATION INFORMATION

Registration for All Components:

United States (TSCA) registered or exempt:	Yes
Australia (AICS) registered or exempt:	Yes
Canada (DSL/NDSL) registered or exempt:	Yes
China (IECSC) registered or exempt:	Yes
Europe (EINECS) registered or exempt:	Yes
Japan (ENCS) registered or exempt:	Yes
Korea (ECL) registered or exempt:	Yes
New Zealand (NZIoC) registered or exempt:	Yes
Philippines (PICCS) registered or exempt:	Yes
Taiwan (TSCI) registered or exempt:	Yes

US REGULATIONS

OSHA Hazard Communication Standard (29 CFR 1910.1200): Hazardous

All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) – Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4) – Not regulated.

SARA 304 Emergency Release Notification
Cyclohexylamine (CAS No. 108-91-8) – Listed. (Threshold Planning Quantity: 10,000 lbs.)

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) – Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)
SARA 311/312 Hazardous Categorization:

Acute Health Hazard:	Yes
Chronic Health Hazard:	No
Fire Hazard:	No
Sudden Release of Pressure Hazard:	No
Reactive Hazard:	No

SARA 302 Extremely Hazardous Substance
Cyclohexylamine (CAS No. 108-91-8) – Listed. (Reportable Quantity: 10,000 lbs.)

SARA 311/312 Hazardous Chemical – Not listed

SARA 313:
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61):
Cyclohexylamine (CAS No. 108-91-8) – Listed. (Threshold Quantity: 15,000 lbs.)

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Proposition 65: This product does not contain any Proposition 65 chemicals.

SECTION 16 – OTHER INFORMATION

Revision Comments: N/A

Issue Date: 08/04/2025

Revision Date: N/A

Prepared by: Product Stewardship Team

This Safety Data Sheet was prepared to comply with the OSHA Hazard Communication Standard, 29 CFR 1910.1200. Chemstream, Inc. provides no warranties; either expressed or implied and assumes no responsibility for the accuracy or completeness of the data contained herein. The data contained in this Safety Data Sheet reflects the latest information available to us on hazards, properties, and handling of this product under the

recommended conditions of use. The information on this Safety Data Sheet relates only to the material as supplied and does not relate to combinations with other materials or processes.