

SECTION 1 – PRODUCT AND COMPANY INFORMATION

Product Identifiers

Product name: 453 Steamline Treatment
Product Application: Condensate return anti-corrosive
Emergency telephone number: CHEMTREC (800) 424-9300 **Poison Control:** 1-800-222-1222

SECTION 2 – HAZARD IDENTIFICATION

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Signal Word: **DANGER**

Pictograms: Skull and Crossbones, Corrosion, Flammable

Physical Hazards: Not Classified

Health Hazards: Acute toxicity, Oral (Category 3) Toxic if swallowed.

Acute toxicity, Dermal (Category 3) Toxic if swallowed or in contact with skin

Skin corrosion (Category 1B) Causes severe skin burns and eye damage.

Eye damage/irritation (Category 1) Causes serious eye damage.

Reproductive toxicity (Category 2) Suspected of damaging fertility or the unborn child.

Environmental Hazards: Acute aquatic toxicity (Category 3) Harmful to aquatic life.

Precautionary Statements

Prevention: Wash hands or other contact areas thoroughly after handling. Do not eat, drink or smoke when using this product. If exposed or concerned: Get medical advice/attention. Manufacturer/Supplier or competent authority to select medical advice or attention as appropriate. Avoid release to the environment.

Response: **If on skin:** Wash with plenty of water. See First Aid on this label for specific treatment. If skin irritation occurs: Get medical advice or attention. Take off contaminated clothing and wash it before reuse.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.

If swallowed: Rinse mouth. Seek immediate medical attention. Specific treatment is shown in First Aid section. Refer to SDS for further information.

Collect Spillage

Storage: None

Disposal: Dispose of contents/ container to an approved waste disposal plant.

HNOC:* None



SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredient	CAS	Wt%
Cyclohexylamine	108-91-8	7 – 9.5%
Diethylaminoethanol (DEAE)	100-37-8	8 - 11%
Morpholine	110-91-8	3-6%

SECTION 4 – FIRST AID MEASURES

Description of first aid measures

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled: Remove the person from exposure. Begin rescue breathing (using universal precautions) if breathing has stopped and CPR if heart action has stopped. Transfer promptly to a medical facility. Medical observation is recommended for 24 to 48 hours after overexposure, as pulmonary edema may be delayed.

In case of skin contact: Quickly remove contaminated clothing. Immediately blot or brush off excess chemical and wash gently with large amounts water for at least 30 minutes. Seek medical attention immediately.

In case of eye contact: Quickly brush off excess chemical from the face. Immediately flush with large amounts of water for at least 30 minutes, lifting upper and lower lids. Remove contact lenses, if worn, while flushing. Seek medical attention immediately.

If swallowed: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed: The most important known symptoms and effects are described in Section 2 and/or in Section 11.

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

SECTION 5 – FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Extinguish fire using an agent suitable for type of surrounding fire. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use water spray to keep fire-exposed containers cool. DO NOT get water inside containers

Special hazards arising from the substance or mixture. Carbon oxides, Nitrogen oxides (NOx)

Advice for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Further information: If employees are expected to fight fires, they must be trained and equipped as stated in the OSHA Fire Brigades Standard (29 CFR 1910.156).

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up: Absorb liquids in dry sand, earth, or a similar material and place into sealed containers for disposal. Ventilate and wash area after clean-up is complete. DO NOT wash into sewer. Contact your state Department of Environmental Protection (DEP) or your regional office of the federal Environmental Protection Agency (EPA) for specific recommendations.

Reference to other sections: For disposal see Section 13.

Note: If employees are required to clean-up spills, they must be properly trained and equipped. The OSHA Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120) may apply.

SECTION 7 – HANDLING AND STORAGE

Precautions for safe handling: Avoid inhalation of vapor or mist. For precautions see Section 2.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Follow storage practices for non-combustible, corrosive hazardous materials.

SECTION 8 – EXPOSURE CONTROL AND PERSONAL PROTECTION

Control parameters

Components with workplace control parameters:

Diethylaminoethanol: OSHA: PEL 25 ppm avg. 8-hr shift. NIOSH: REL 10 ppm avg. over 10-hr. with 25 ppm not exceeded during any 15-minutes. ACGIH: TLV 5 ppm 8-hr shift and 15 ppm STEL.

Morpholine: OSHA: PEL 20 ppm avg. 8-hr shift. NIOSH: REL 20 ppm avg. over 10-hr. with 30 ppm not exceeded during any 15-minutes. ACGIH: TLV 20 ppm 8-hr shift,

Cyclohexamine: NIOSH: REL 10 ppm avg. over 10-hr. with 30 ppm not exceeded during any 15-minutes. ACGIH: TLV 10 ppm 8-hr shift,

Exposure controls

Appropriate engineering controls: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection: Tightly fitting safety goggles. Face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection: Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Improper use of respirators is dangerous. Respirators should only be used if the employer has implemented a written program that takes into account workplace conditions, requirements for worker training, respirator fit testing, and medical exams, as described in the OSHA Respiratory Protection Standard (29 CFR 1910.134).

Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

General Information:

Physical State:	Clear light yellow liquid with strong amine odor
Boiling Point/Range:	Not Determined, >212 F
Flash Point:	Not Determined
Auto Ignition Temp:	N/A
Lower Flammability Limit:	N/A
Upper Flammability Limit:	N/A
Vapor Pressure (psi @100°F):	N/A
Vapor Density:	NA
Freezing Point/Melting Point:	Not Determined

Solubility (Water):	Complete
Specific Gravity:	0.985
Evaporation Rate:	Not Determined
Viscosity (SSU@ 100°F):	Not Determined
pH:	12.5
Volatility:	Not Determined

Note: Physical Data is typical values based on material tested, but may vary based on composition. Values should not be accepted as guaranteed for every lot or as specifications for this product.

SECTION 10 – STABILITY AND REACTIVITY

Reactivity:	No data available
Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	No data available
Conditions to avoid:	No data available
Incompatible materials:	Strong acids, oxidizers.
Hazardous decomposition products:	No data available. In the event of fire: see section 5

SECTION 11 – TOXICOLOGICAL INFORMATION

Information on toxicological effects:

Diethylaminoethanol: Acute toxicity LD50 **Oral** – Rat: 1,320 mg/kg; LC50 **Inhalation** – Rat: 4.6 mg/l (4 hours)

LC50 **Dermal** – Guinea Pig: 885 mg/kg; **Eye**: Risk of serious damage to eyes

Morpholine: Acute toxicity LD50 **Oral** – Rat: 1900 mg/kg; LC50 **Inhalation** – Rat: 8 g/m³; LD50 **Dermal** – Rabbit: 500 mg/kg

Cyclohexamine: Acute toxicity LD50 **Oral** – Rat: 303 mg/kg; LC50 **Inhalation** – Rat: >32.9 mg/l (4 hours)

LD50 **Dermal** – Rabbit: >631 - <1000 mg/kg

Skin corrosion/irritation: Corrosive

Serious eye damage/eye irritation: Risk of serious damage to eyes

Respiratory or skin sensitization: Irritating to the respiratory system

Germ cell mutagenicity: No data available

Carcinogenicity: IARC, ACGIH, NTP, and OSHA: 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.

Reproductive toxicity: No data available

Specific target organ toxicity - single exposure: No data available

Specific target organ toxicity - repeated exposure: No data available

Aspiration hazard: No data available

Additional Information: None.

SECTION 12 – ECOLOGICAL INFORMATION

Toxicity:

Diethylaminoethanol: Toxicity to fish LC50 – *Leuciscus Idus* (Golden orfe): 147 mg/l (96 hours)

Toxicity to daphnia and other aquatic invertebrates EC50 – *Daphnia Magna* (water flea): 83.6 mg/l (48 hours)

Toxicity to algae EC50 - *Pseudokirchneriella subcapitata* (green algae): 44 mg/l (72 hours)

Morpholine: Toxicity to fish LC50 - *Leuciscus idus* (Golden orfe): 179 mg/l (96 hours)

Toxicity to daphnia and other aquatic invertebrates EC50 - *Daphnia magna* (Water flea): 45 mg/l (48 hours)

Toxicity to algae EC50 - *Pseudokirchneriella subcapitata* (green algae): 58 mg/l (72 hours)

Cyclohexamine: Toxicity to fish LC50 - *Oncorhynchus mykiss* (rainbow trout): 44 mg/l (96 hours)

Toxicity to daphnia and other aquatic invertebrates EC50 - *Daphnia magna* (Water flea): 49 mg/l (24 hours)

Toxicity to algae growth rate EC50 - *Desmodesmus subspicatus* (green algae): 20 mg/l (96 hours)

Persistence and degradability: Readily biodegradable

Bioaccumulative potential: No data available

Mobility in soil: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

SECTION 13 – DISPOSAL CONSIDERATION

Waste treatment methods Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging: Dispose of as unused product.

Note: This product is intended to be used boiler water pre-treatment systems and discharged to sanitary sewer in its diluted state in boiler blowdown water. Concentrated product may be diluted to a similar working concentration and flushed to sewer, or soaked up with absorbent material and landfilled in accordance with local, state, and federal regulations.

SECTION 14 – TRANSPORT INFORMATION

14. Transport information (USDOT):

Proper shipping Name:	Corrosive Liquid, Flammable, N.O.S. (Contains Cyclohexylamine)
Hazard Class:	Corrosive (8,3)
UN/ID No	UN2920
Packing Group	II
Reportable Quantity (RQ)	10,000 LBS
Description:	N/A



SECTION 15 – REGULATORY INFORMATION

TSCA (Toxic Substance Control Act): Components of this product are listed on the TSCA Inventory.

DSL: This product, or its components, are listed on or are exempt from the Canadian Domestic Substances List (DSL).

CERCLA: (Comprehensive Emergency Response Compensation, and Liability Act): Product is not found in "List of Hazardous Substances and Reportable Quantities" (40 CFR 302.4): None

RCRA: (Resource Conservation/Recovery Act): No

SARA 302 Components SARA 302 Components

The following components are subject to reporting levels established by SARA Title III, Section 302: Cyclohexylamine CAS-No.108-91-8 Revision Date 2008-11-03

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

SARA 311/312 Hazards Acute Health Hazard

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16 – OTHER INFORMATION

NFPA Identifier:

Supplemental Info: **HMIS Rating:** Health hazard: 3

Flammability: 3

Chronic Health Hazard: * Physical Hazard 0

NFPA Rating: Health hazard: 3 Fire Hazard: 3 Reactivity Hazard: 1

* Hazards not otherwise classified (HNOC) or not covered by GHS



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