



Safety Data Sheet

1 – PRODUCT IDENTIFICATION

PRODUCT NAME: **5020**
PRODUCT NUMBER: 5020
OTHER MEANS OF IDENTIFICATION: Clear, colorless, basic liquid with a fishy, amine odor similar to ammonia.
RECOMMENDED USE: Condensate Treatment Product
RESTRICTIONS ON USE: Use only as directed

COMPANY: CHEMTRON SUPPLY CORPORATION
3500 HARRY S. TRUMAN BLVD
ST. CHARLES, MO 63301
(P) 636-940-5445 (MON-FRI 7:30-4:00)
www.chemtroncorporation.com

EMERGENCY PHONE: (800) 424-9300 (CHEMTREC)
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2 – HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Corrosive. Clear, colorless, basic liquid with an amine (ammonia) odor. Product is corrosive to eyes, skin, and respiratory system. Skin absorption, inhalation, or ingestion may also result in toxic effects. May react with acids. Container head space gases may be flammable if exposed to a source of ignition.

CLASSIFICATION 29 CFR 1910.1200: Product is hazardous by OSHA criteria.

PHYSICAL HAZARDS:	Flammable Liquids: .	Category 3
HEALTH HAZARDS:	Acute Toxicity, Oral:	Category 4
	Acute Toxicity, Dermal:	Category 4
	Skin Corrosion/irritation:	Category 1
	Serious Eye Damage/eye irritation:	Category 1
	Reproductive Toxicity:	Category 2



GHS SIGNAL WORD: **Danger**

HAZARD STATEMENT: Flammable liquid and vapor. Harmful if swallowed. Harmful in contact with skin. Causes severe skin burns and eye damage. Causes serious eye damage. Suspected of damaging fertility or the unborn child.



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PRECAUTIONARY STATEMENTS:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/surfaces. –No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.

Response: 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 poison center/doctor. Take off all contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.

Storage: Store in a well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC): None known.

Supplemental Information: None.

3 – COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENT	PERCENT	CAS NUMBER
Cyclohexylamine	20-40	108-91-8

Other components below reportable level..... 80-100%

*The exact percent by weight of the ingredients in this formulation is proprietary.

4 – FIRST-AID MEASURES

INHALATION:..... If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a doctor.

INGESTION:..... If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately, call a poison control center or doctor.

EYES:..... If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for 15 minutes. Immediately, call a doctor.

SKIN: If on skin (or hair): Immediately, take off all contaminated clothing. Rinse skin with water. Use safety shower if available. Immediately, call a doctor. Chemical burns may be treated by a physician. Wash contaminated clothing before reuse.

ACUTE/DELAYED SYMPTOMS: Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

IMMEDIATE OR SPECIAL TREATMENT REQUIREMENTS: Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to



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affected area. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

GENERAL INFORMATION:..... Take off all contaminated clothing immediately. If exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5 – FIRE-FIGHTING MEASURES

FLASHPOINT: Product is corrosive to eyes, skin, and respiratory system. Closed containers may rupture (due to buildup of pressure) when exposed to extreme heat. Product contains 5-20% cyclohexylamine. Cyclohexylamine has a flash point of 79 degrees F. The lower explosive limit (LEL) is 1.6% (V). Headspace gases in open units or residual gases in empty units may represent a fire hazard if exposed to a source of ignition. If containers rupture or if units are open to the air, headspace gases may be released and accumulate at floor level. Gas may spread across a floor to a source of ignition and flash back.

EXTINGUISHING MEDIA: Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO₂). Do NOT use water jet as an extinguisher, as this will spread the fire.

SPECIAL FIRE FIGHTING PROCEDURES:..... Wear self-contained breathing apparatus and full turn-out gear. If possible, move containers away from fire. Cool fire exposed containers with water spray. If containers rupture or leak, product may evolve oxides of nitrogen and oxides of carbon.

GENERAL FIRE HAZARDS: Flammable liquid and vapor.

6 – ACCIDENTAL RELEASE MEASURES

SPILL PROCEDURES: Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

CONTAINMENT/CLEANUP: Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

ENVIRONMENTAL PRECAUTIONS: Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses onto the ground.



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7 – HANDLING and STORAGE

HANDLING: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.

STORAGE: Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS: Exposure limits for the formulated product are not established. Exposure limits for hazardous ingredients are:

U.S. ACGIH THRESHOLD:

Ingredient	Type	Exposure Limit
Cyclohexylamine (CAS: 108-91-8)	TWA	10 ppm

U.S. NIOSH:

Ingredient	Type	Exposure Limit
Cyclohexylamine (CAS: 108-91-8)	TWA	40 mg/m ³ 10 ppm

BIOLOGICAL LIMIT VALUES: No biological exposure limits noted for the ingredient(s).

EXPOSURE GUIDELINES: US CALIFORNIA SKIN DESIGNATION:

Cyclohexamine (CAS: 108-91-8)	Can be absorbed through skin.
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APPROPRIATE ENGINEERING CONTROLS: Explosion-proof general and local exhaust ventilation. Good general ventilation 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. Eye wash facilities and emergency shower must be available when handling this product.

PERSONAL PROTECTION: Wear safety glasses with side shields (or goggles) and a face shield. Wear appropriate chemical resistant gloves. Wear appropriate chemical resistant clothing. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an



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acceptable level (in countries where exposure limit have not been established), an approved respirator must be worn.

GENERAL HYGIENE:..... Observe any medical surveillance requirements. When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9 – PHYSICAL / CHEMICAL PROPERTIES

APPEARANCE:..... Clear, Colorless, Liquid
BOILING POINT:..... >212° F
VAPOR PRESSURE:..... <1.0 mm Hg estimated
SPECIFIC GRAVITY:..... Specific gravity, 0.98-0.99
pH:..... 11.5-13.0
SOLUBILITY IN WATER:..... Completely miscible in water
FLAMMABILITY CLASS:..... Combustible II estimated
ODOR:..... Amine odor
FLASH POINT..... :~124° F
EVAPORATION RATE:..... Not available
MELTING POINT/FREEZING POINT:..... <40° F
DENSITY:..... 8.17 lb/gal

10 – STABILITY and REACTIVITY

REACTIVITY:..... Product may react with strong acids and strong oxidizers.
STABILITY:..... Stable at ambient temperatures and pressures.
HAZARDOUS POLYMERIZATION.: Polymerization will not occur.
INCOMPATIBILITY:..... Strong acids and strong oxidizers. Aluminum
HAZARDOUS REACTIONS:..... Contact with strong acids and strong oxidizers. Avoid exposure to sources of ignition
HAZARDOUS DECOMP.:..... Oxides of nitrogen and oxides of carbon.
CONDITIONS TO AVOID:..... Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials. Do not mix with other chemicals.

11 – TOXICOLOGICAL INFORMATION

LIKELY ROUTES OF EXPOSURE:..... Inhalation: May cause irritation to the respiratory system. Prolonged inhalation may be harmful. Skin Contact: Causes severe skin burns. Harmful contact with skin. Eye Contact: Causes serious eye damage. Ingestion: Causes digestive tract burns. Harmful if swallowed.
TOXICOLOGICAL CHARACTERISTICS:..... Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
ACUTE TOXICITY:..... Harmful in contact with skin. Harmful if swallowed.
LISTED CARCINOGEN:..... None of the product ingredients are listed as carcinogens by IARC, NTP, or OSHA.
DELAYED EFFECTS:..... Dermatitis, pulmonary edema; chemical pneumonitis.
IMMEDIATE EFFECTS:..... Irritation or burns to eyes, skin, upper respiratory system, or other tissues



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CHRONIC EFFECTS:..... Repeated dermal exposure to cyclohexylamine ingredient may result in sensitization. High dose exposure to cyclohexylamine has produced embryotoxicity, low birth count, post natal mortality, and decreased body weight in laboratory animals.

REPRODUCTIVE TOXICITY: Suspected of damaging fertility or the unborn child.

INGREDIENT	DATA
Cyclohexylamine	Oral rat LD50 303 mg/kg (male rat) Dermal rabbit LD50 >631 mg / kg <1000 mg / kg Inhalation rat LC50 >32.9 mg / I (32.9 g/m ³) 4 hour

12 – ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE AND DISTRIBUTION: . No ecotoxicity data available for the formulated product. Significant contamination of small bodies of surface water or localized areas at the point of a spill may elevate pH levels above tolerable levels for aquatic organisms. Hazardous ingredients listed in Section 3 are toxic to aquatic organisms. Note ingredient LC50's.

PRODUCT	DATA
Cyclohexylamine	Rainbow trout 96 hour LC50 - 44 mg/I Daphnia magna 24 hour EC50 - 49 mg/I

PERSISTENCE AND DEGRADABILITY:..... Not known. Amine ingredients are biodegradable
BIOACCUMULATIVE POTENTIAL:..... Not known. Bioaccumulation unlikely. Amine ingredients are biodegradable.

Partition coefficient n-octanol/water (log Kow)	
Cyclohexylamine	1.49

MOBILITY IN SOIL: Not known. Water solubility may enhance mobility in groundwater.
OTHER ADVERSE EFFECTS:.. Not known.

13 –DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:..... Product is consumed during recommended use. Flush container residues to the treated system. If product is not consumed in use, material is RCRA hazardous waste due to the corrosivity characteristic (D002) and the ignitable characteristic (D001). Dispose of contents or container in accordance with local, state, and federal regulations. The waste code should be assigned in discussion between the user, the producer, and the waste disposal company.

14 – TRANSPORTATION INFORMATION

PROPER SHIPPING NAME: Corrosive liquids, flammable, n.o.s., (Cyclohexylamine)
HAZARD CLASS:..... 8, subsidiary 3
UN/NA NUMBER:..... UN2924





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PACKAGING GROUP: PG III

TRANSPORT IN BULK: Product container meets or exceeds DOT requirements. Material is a Packing Group II corrosive base. No extraordinary measures are required for shipment in bulk tanks including totes. See 49 CFR 172.101 & 49 CFR 172.102.

SPECIAL PRECAUTIONS: If needed, see Column 7 entries in the DOT hazardous materials table and associated designations at 49 CFR 172.102 for detailed descriptions of authorized containers, tank material specifications, maximum degree of filling, minimum pressure tests, and other information.

15 - REGULATIONS

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29CFR 1910.1200

EPA SRA Title III Chemical Listings:

TSCA STATUS: All ingredients listed or exempt.

SECTION 302/303/313: Cyclohexylamine ingredient listed as an EPCRA Extremely hazardous substance, 40 CFR 355 Appendix A

SECTION 304: 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.

SECTION 311/312: Acute, chronic, fire

US EPA CERCLA: If product is designated waste, substance is hazardous per the corrosivity characteristic (D002) and the ignitable characteristic (D001).

16 – OTHER INFORMATION

NFPA HAZARD RANKING :

HEALTH	FIRE	REACTIVITY	SPECIAL
3	2	0	CORR

HMIS HAZARD RANKING:

HEALTH	FIRE	REACTIVITY	PPE
3	2	0	n & p or X (HMIS III, defined below)

n - splash goggles
 p - gloves
 X - consult supervisor