

PRODUCT: TRIPLE C #606

SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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PRODUCT NAME: Triple C #606

CHEMICAL FORMULA: NH₄OH (aq)

CHEMICAL FAMILY: Ammonium Hydroxide

MATERIAL USE: Condensate Return Line Treatment.

EMERGENCY PHONE NUMBER: (613)-996-6666

SECTION 02: HAZARDS IDENTIFICATION



SIGNAL WORD: DANGER

HAZARD CLASSIFICATION: Acute Toxicity - Category 4 (Oral).
Skin Corrosion - Category 1A.
Eye Damage - Category 1.
Specific Target Organ Toxicity (STOT) - Single Exposure - Category 3.
Aquatic Acute Toxicity - Category 1.

HAZARD STATEMENT: **H302:** Harmful if swallowed.
H314: Causes severe skin burns and eye damage.
H318: Causes serious eye damage.
H335: May cause respiratory irritation.
H400: Very toxic to aquatic life.

PRECAUTIONARY STATEMENT: **P260:** Do not breathe gas, vapors, fume, mist, spray.
P261: Avoid breathing fume, mist, spray, vapors.
P264: Wash clothing thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release to the environment.
P280: Wear eye protection, face protection, protective gloves, protective clothing.
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.
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.
P310: Immediately call a POISON CENTER or doctor/physician.
P312: Call a POISON CENTER/doctor/physician if you feel unwell.
P321: Specific treatment (see Section 4: First Aid Measures).
P330: If swallowed, rinse mouth.
P363: Wash contaminated clothing before reuse.
P391: Collect spillage.

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SECTION 02: HAZARDS IDENTIFICATION**P403+P233:** Store in a well-ventilated place. Keep container tightly closed.**P405:** Store locked up.**P501:** Dispose of contents/container to local, regional, national, and international regulations.

OTHER HAZARDS:

Not Applicable.

SECTION 03: COMPOSITION/INFORMATION ON INGREDIENTS

| INGREDIENT(S) | CAS # | WT. % |
|---------------------|-----------|-------|
| Water | 7732-18-5 | 75-90 |
| *Ammonium Hydroxide | 1336-21-6 | 10-25 |

Definitions:

CAS - Chemical Abstract Service registry number.

WT. % - Percent Weight.

*More than one of the ranges of concentration prescribed by Controlled Products Regulations has been used where necessary, due to varying composition.

SECTION 04: FIRST AID MEASURES**GENERAL ADVICE:**

IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible).

IF INHALED:

Using proper respiratory protection, immediately move the exposed person to fresh air. Keep at rest and in a position comfortable for breathing. Give oxygen or artificial respiration if necessary. Seek immediate medical advice. Symptoms may be delayed.

IN CASE OF SKIN CONTACT:

Remove/Take off immediately all contaminated clothing. Immediately flush skin with plenty of water for at least 60 minutes. Seek medical attention immediately if exposure is severe. Obtain medical attention if irritation develops or persists. Wash contaminated clothing before reuse. Do not apply salves or ointments to the affected area.

IN CASE OF EYE CONTACT:

Rinse cautiously with water for at least 60 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

IF SWALLOWED:

If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

THE MOST IMPORTANT SYMPTOMS AND EFFECTS, WHETHER ACUTE OR DELAYED:

General: Harmful if swallowed, corrosive, and causes burns.

Inhalation: Contact may cause immediate severe irritation progressing quickly to chemical burns. Danger of serious damage to health by prolonged exposure through inhalation. May cause pulmonary edema. Symptoms may be delayed.

Skin Contact: Contact may cause immediate severe irritation progressing quickly to chemical burns.

Eye Contact: Contact may cause immediate severe irritation progressing quickly to chemical burns. Can cause blindness.

Ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Swallowing a small quantity of this material will result in serious health hazard.

Chronic Symptoms: Repeated or prolonged inhalation may damage lungs. Prolonged and repeated contact will eventually cause permanent tissue damage. Repeated or prolonged exposure may damage kidneys.

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:

If medical advice is needed, have product container or label at hand. Acute respiratory effects, including pulmonary edema, may be delayed. Pneumonitis should be anticipated after inhalation or ingestion. If severe exposure is suspected, observe for 48-72 hours for delayed pulmonary edema.

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SECTION 05: FIRE FIGHTING MEASURES

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| SUITABLE EXTINGUISHING MEDIA: | Water Spray. |
| UNSUITABLE EXTINGUISHING MEDIA: | No Data Available. |
| HAZARDOUS COMBUSTION PRODUCTS: | No Data Available. |
| SPECIFIC HAZARDS ARISING FROM THE CHEMICAL: | <ul style="list-style-type: none">• Fire Hazard: Not flammable. Under conditions of fire this material may produce: Nitrogen oxides, Nitrogen, and Ammonia.• Explosion Hazard: Ammonia vapor concentrations between 16% and 25% can explode on contact with an ignition source.• Reactivity: Ammonium hydroxide reacts with many heavy metals and their salts forming explosive compounds. It attacks many metals forming flammable/explosive gas. The solution in water is a strong base, it reacts violently with acids. |
| ADVICE FOR FIREFIGHTERS: | <ul style="list-style-type: none">• Precautionary Measures Fire: Not available• Firefighting Instructions: Keep upwind. Use water spray or fog for cooling exposed containers.• Protection During Firefighting: Firefighters must use full bunker gear including National Institute for Occupational Safety and Health (NIOSH)-approved positive-pressure self-contained breathing apparatus to protect against potential hazardous combustion and decomposition products. |
| OTHER INFORMATION: | <ul style="list-style-type: none">• Do not allow run-off from firefighting to enter drains or water courses. |
| REFERENCE TO OTHER SECTIONS: | <ul style="list-style-type: none">• Refer to Section 9: Physical and Chemical Properties, for flammability properties. |

SECTION 06: ACCIDENTAL RELEASE MEASURES

| | |
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| PERSONAL PRECAUTIONS: | <p>For Non-Emergency Personnel: Protective Equipment: Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.</p> <p>Emergency Procedures: Stop leak if safe to do so. Eliminate ignition sources. Evacuate unnecessary personnel. Ventilate area. Keep upwind.</p> <p>For Emergency Personnel: Protective Equipment: Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.</p> <p>Emergency Procedures: Stop leak if safe to do so. Eliminate ignition sources. Evacuate unnecessary personnel. Ventilate area.</p> |
| ENVIRONMENTAL PRECAUTIONS: | Avoid release to the environment. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. |
| METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN UP: | <p>For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Eliminate all ignition sources. Ventilate area.</p> <p>Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Collect absorbed material and place into a sealed, labelled container for proper disposal. Practice good housekeeping - spillage can be slippery on smooth surface either wet or dry.</p> |
| REFERENCE TO OTHER SECTIONS: | See Section 8: Exposure Controls and Personal Protection. |

SECTION 07: HANDLING AND STORAGE

| | |
|---------------------------------------|---|
| PRECAUTIONS FOR SAFE HANDLING: | Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Wash contaminated clothing before reuse. |
| CONDITIONS FOR SAFE STORAGE: | <p>Storage Conditions: Detached outside storage is preferable. Store away from oxygen and oxidizers.</p> <p>Storage Area: Store in dry, cool area. Store in a well-ventilated place. Keep away from combustible materials. Keep away from sources of ignition - No smoking. Protect from high temperatures.</p> |

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SECTION 07: HANDLING AND STORAGE

SPECIFIC END USE(S): Fertilizer; extracting metals from their ores; manufacturing of plastics, fibres, resins, explosives, detergents, pesticides, pharmaceuticals, ammonium compounds, and other chemicals.

SECTION 08: EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS: No Occupational Exposure Limits (OELs) have been established for this product or its chemical components.

ENGINEERING CONTROLS: Provide sufficient ventilation to keep ammonia vapors below the permissible exposure limit. Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

MATERIALS FOR PROTECTIVE CLOTHING: No Data Available.

HAND / SKIN AND BODY PROTECTION: Wear suitable protective clothing; chemical resistant suit, rubber apron, boots, impermeable protective gloves, and in insufficient ventilation conditions wear respiratory protection.

EYE/FACE PROTECTION: Face Shield.

RESPIRATORY PROTECTION: For exposures at or below 300 ppm use a NIOSH-approved, full-face, negative-pressure respirator fitted with ammonia vapor cartridges. For exposure concentrations above 300 ppm, use a full-face, positive-pressure, self-contained breathing apparatus.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Clear liquid.

ODOUR: Ammonia.

ODOUR THRESHOLD: 0.043 - 5 ppm @ 30% (w/w).

PH: 13 @ 10% / 11.6 @ 1N.

MELTING POINT/FREEZING POINT: -73°C (-100°F) @ 10 - 35% (w/w).

BOILING POINT: 27.2°C (81°F) @ 30% (w/w).

38°C (100°F) @ 10 - 35% (w/w).

FLASH POINT, METHOD: No Data Available.

EVAPORATION RATE: No Data Available.

FLAMMABILITY (SOLIDS AND GASES): No Data Available.

UPPER FLAMMABLE LIMIT (% BY VOL): No Data Available.

LOWER FLAMMABLE LIMIT (% BY VOL): No Data Available.

VAPOUR PRESSURE: 63.3 kPa (475 mm Hg) (at 20°C) @ 30% (w/w).

48 kPa (360 mm Hg) (at 20°C) @ 10 - 35% (w/w).

VAPOUR DENSITY (AIR=1): 0.618 @ 15°C (59°F) (Air=1) @ 30% (w/w).

0.6 - 1.2 (Air = 1) @ 10 - 35% (w/w).

0.59 (Air = 1) @ 27 - 30% (w/w).

RELATIVE DENSITY: 0.895 (Water = 1) @ 30% (w/w).

1.9@10 - 35% (w/w).

0.9@27 - 30% (w/w).

0.898@28% (w/w).

0.8974 @ 29.4% (w/w).

SPECIFIC GRAVITY (WATER=1): 0.895 g/cm³.

SOLUBILITY IN WATER (% W/W): Water: Miscible.

AUTO IGNITION TEMPERATURE: No Data Available.

PARTITION COEFFICIENT

N-OCTANOL/WATER: No Data Available.

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SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

DECOMPOSITION TEMPERATURE: No Data Available.
VISCOSITY: No Data Available.
EXPLOSION DATA - SENSITIVITY TO MECHANICAL IMPACT OR STATIC DISCHARGE: Not expected to present an explosion hazard due to mechanical impact or static discharge.

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY: Ammonium hydroxide reacts with many heavy metals and their salts forming explosive compounds. It attacks many metals forming flammable/explosive gas. The solution in water is a strong base, it reacts violently with acids.
CHEMICAL STABILITY: Stable at standard temperature and pressure.
POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.
CONDITIONS TO AVOID: Keep away from heat. Avoid ignition sources.
INCOMPATIBLE MATERIALS: Oxidizers, avoid contact with: halogens (fluorine (F), chlorine (Cl), bromine (Br), iodine (I)), gold, silver, mercury, hypochlorites, copper and its alloys, aluminum alloys, galvanized surfaces. May form shock sensitive compounds that may explode when dry.
HAZARDOUS DECOMPOSITION PRODUCTS: Under conditions of fire this material may produce: Ammonia and Nitrogen oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

| INGREDIENT(S) | LC50 | LD50 |
|--------------------|------|--------------------------|
| Ammonium Hydroxide | - | 350 mg/kg (Oral Rat) |
| Water | - | > 90000 mg/kg (Oral Rat) |

ACUTE TOXICITY: Harmful if swallowed.
ORAL LD50: See Above.
INHALATION LC50: No Data Available.
DERMAL LD50: No Data Available.
SKIN CORROSION / IRRITATION: Causes severe skin burns and eye damage.
SERIOUS EYE DAMAGE / EYE IRRITATION: Causes serious eye damage.
RESPIRATORY OR SKIN SENSITIZATION: Not Classified.
GERM CELL MUTAGENICITY: Not Classified.
CARCINOGENICITY: Not Classified.
REPRODUCTIVE TOXICITY: Not Classified.
SPECIFIC TARGET ORGAN TOXICITY (STOT) - SINGLE EXPOSURE: May cause respiratory irritation.
STOT - REPEAT EXPOSURE: Not Classified.
ASPIRATION HAZARD: Not Classified.
SIGNS AND SYMPTOMS OF EXPOSURE: Inhalation: Contact may cause immediate severe irritation progressing quickly to chemical burns. Danger of serious damage to health by prolonged exposure through inhalation. May cause pulmonary edema. Symptoms may be delayed.
Skin Contact: Contact may cause immediate severe irritation progressing quickly to chemical burns.
Eye Contact: Contact may cause immediate severe irritation progressing quickly to chemical burns. Can cause blindness.
Ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Swallowing a small quantity of this material will result in serious health hazard.

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SECTION 11: TOXICOLOGICAL INFORMATION

CHRONIC SYMPTOMS: Repeated or prolonged inhalation may damage lungs. Prolonged and repeated contact will eventually cause permanent tissue damage. Repeated or prolonged exposure may damage kidneys.

SECTION 12: ECOLOGICAL INFORMATION

PERSISTENCE AND DEGRADABILITY: Product is Biodegradable.

BIOACCUMULATIVE POTENTIAL: Not expected to bioaccumulate.

TOXICITY: Not Classified.

Ammonium Hydroxide: LC50 Fish 1: 8.2 mg/L (Exposure time: 96 h - Species: *Pimephales promelas* (Fathead minnow)).
 EC50 Daphnia 1: 0.66 mg/L (Exposure time: 48 h - Species: *Daphnia pulex* (Water flea)).
 EC50 Daphnia 2: 0.66 mg/L (Exposure time: 48 h - Species: *Water flea*).

MOBILITY IN SOIL: No Data Available.

OTHER ADVERSE EFFECTS: No Data Available.

SECTION 13: DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: Dispose of waste material in accordance with all local, regional, national, and international regulations. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

PACKAGING: No Data Available.

SECTION 14: TRANSPORT INFORMATION

Transportation of Dangerous Goods (TDG): Regulated.

United States (US) Department of Transportation (DOT): Regulated.

International Maritime Dangerous Goods (IMDG): Regulated.

International Air Transport Association (IATA): Regulated.

UNITED NATIONS (UN) NUMBER: 2672

TRANSPORT HAZARD CLASS: 8

PACKING GROUP: III

PROPER SHIPPING NAME: AMMONIA SOLUTIONS, Relative Density Between 0.880 and 0.957 at 15°C in Water, with More than 10% but not More than 35% Ammonia.

REGULATION SPECIFIC INFORMATION:

In Accordance with IMDG: EmS-No. (Fire): F-A.
 EmS-No. (Spillage): S-B.

In Accordance with IATA: ERG Code (IATA): 8L.

SPECIAL SHIPPING INSTRUCTIONS: Ammonium hydroxide is not listed as a marine pollutant by TDG, IMDG, or DOT.

SECTION 15: REGULATORY INFORMATION

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) CLASSIFICATION: Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects.
 Class E - Corrosive Material.

HAZARDOUS PRODUCT REGULATIONS (HPR) COMPLIANCE: This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

CANADIAN DOMESTIC SUBSTANCE LIST (DSL): Listed.

CANADIAN INGREDIENT DISCLOSURE LIST: Listed.

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SECTION 15: REGULATORY INFORMATION**UNITED STATES (US) FEDERAL REGULATIONS:**

Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazard Categories: Immediate (acute) health hazard.

United States Toxic Substances Control Act (TSCA) Inventory: Listed.

US STATE OR LOCAL REGULATIONS: Massachusetts - Right to Know List.
New Jersey - Right to Know Hazardous Substance List.
Pennsylvania - Right to Know List.

SECTION 16: OTHER INFORMATION

PREPARED BY: T. Donovan & Son (1997) Ltd.

PREPARATION DATE: May 2018

DISCLAIMER:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. Regulatory requirements are subject to change and may differ between various locations. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.