Safety Data Sheet
Fouchet's Reagent

Section 1 - Chemical Product and Company Identification

SDS Name: Fouchet's Reagent
Catalog Numbers: SO-336, B-168-1, J-611-1
Company Identification: Transene Company, Inc., DBA ROWLEY BIOCHEMICAL Inc.
10 ELECTRONICS AVENUE
DANVERS, MA 01923
For information, call: 978-739-4883
Emergency Number: 800-424-9300
For CHEMTREC assistance, call: 800-424-9300

Section 2 - Hazards Identification

GHS Classifications

H290-Corrosive to metals: 1
H314-Skin corrosion/irritation: 1B
H318-Serious eye damage/eye irritation: 1
H332-Acute toxicity, inhalation: 4
H335-Specific target organ toxicity, single exposure; Respiratory tract irritation: 3
H351-Carcinogenicity: 2
H401-Hazardous to the aquatic environment, acute hazard: 2
H411-Hazardous to the aquatic environment, long-term hazard: 2

23.6% of the mixture consists of ingredients of unknown acute inhalation toxicity.

Pictograms or Hazard symbols and Hazard statement(s):

Signal word: Danger

Hazard Statements:

H290-May be corrosive to metals
H314-Causes severe skin burns and eye damage

H318-Causes serious eye damage
H332-Harmful if inhaled
H335-May cause respiratory irritation
H351-Suspected of causing cancer
H401-Toxic to aquatic life
H411-Toxic to aquatic life with long lasting effects

Precautionary Statements:

P201-Obtain special instructions before use.
P202-Do not handle until all safety precautions have been read and understood.
P234-Keep only in original packaging.
P260-Do not breathe dusts or mists.
P261-Avoid breathing dust/fume/gas/mist/vapours/spray.
P264-Wash thoroughly after handling.
P271-Use only outdoors or in a well-ventilated area.
P273-Avoid release to the environment.
P280-Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331-If swallowed: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353-If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340-If inhaled: Remove person to fresh air and keep 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.
P308+P313-If exposed or concerned: Get medical advice/attention.
P310-Immediately call a Poison Center/doctor.
P312-Call a Poison Center/doctor if you feel unwell.
P363-Wash contaminated clothing before reuse.
P390-Absorb spillage to prevent material damage.
P391-Collect spillage.
P403+P233-Store in a well-ventilated place. Keep container tightly closed.
P405-Store locked up.
P406-Store in a corrosion resistant container with a resistant inner liner.
P501-Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 3 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent
76-03-9	Trichloroacetic Acid	22.7 w/v
10025-77-1	Ferric Chloride Hexahydrate	0.9 w/v
7647-01-0	Hydrochloric Acid (36-38%)	0.03 v/v
7732-18-5	Water	Balance

Section 4 - First Aid Measures

Eye Exposure: In case of contact with eyes, flush with copious amounts of water for at

least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. May cause blindness. Seek immediate medical attention.

Dermal Exposure: In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Seek immediate medical attention.

Oral Exposure: If swallowed, seek immediate medical advice. Do not induce vomiting. Rinse mouth with water and drink small quantities of water (stop if the exposed person feels sick as vomiting may be dangerous).

Inhalation Exposure: If inhaled, remove to fresh air. If breathing becomes difficult, seek immediate medical attention.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use dry chemical, carbon dioxide, dry sand, water spray, or alcohol-resistant foam.

Hazardous Combustion Products: Carbon oxides, hydrogen chloride gas, hydrogen gas, chlorine, iron oxides, chloroform, phosgene, irritating and potentially hazardous fumes and gases.

Flash Point: Not available
Autoignition Temperature: Not available
Explosion Limits, Lower: Not available
Upper: Not available
NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s):
Wear personal protective equipment. Do not ingest or inhale. Do not get on skin or clothing. Do not get in eyes. Ensure adequate ventilation.

Methods for Cleaning up: Absorb with sand, earth, or vermiculite. Carefully sweep up and containerize for proper disposal. Do not release to the environment. Do not release to drains.

Section 7 - Handling and Storage

Use care when handling. Wear personal protective equipment. Wash thoroughly after

handling. Ensure adequate ventilation. Do not ingest or inhale. Do not get on skin or clothing. Do not get in eyes. Keep in a tightly closed non-metal container. Protect from direct sunlight. **Store in the refrigerator (4°C).** Keep away from incompatible materials.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

Exposure Limits:

Chemical Name	ACGIH - TLV	NIOSH - IDLH	OSHA – Final PELs
Trichloroacetic Acid CAS#76-03-9	0.5 ppm TWA	1 ppm TWA 7 mg/m3 TWA	1 ppm TWA (vacated) 7 mg/m3 TWA (vacated)
Ferric Chloride Hexahydrate CAS#10025-77-1	1 mg/m3 TWA	1 mg/m3 TWA	1 mg/m3 TWA (vacated)
Hydrochloric Acid CAS#7647-01-0	2ppm Ceiling	5 ppm Ceiling 7 mg/m3 Ceiling 50 ppm IDLH	5 ppm Ceiling 7 mg/m3 Ceiling

OSHA Vacated PELs: Trichloroacetic Acid: 1 ppm TWA; 7 mg/m3 TWA
Ferric Chloride Hexahydrate: 1 mg/m3 TWA
Hydrochloric Acid: 5 ppm Ceiling; 7 mg/m3 Ceiling

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: Yellow-tint
Odor: Odorless
Vapor Pressure: Not available
Odor Threshold: Not available
Vapor Density: Not available
pH: 0.15-0.35
Relative Density: Not available
Melting point/freezing point: Not available

Solubility: Soluble in water
Boiling Point: Not available
Flash Point: Not available
Evaporation Rate: Not available
Flammability (solid, gas): Not available
Partition coefficient: n-octanol/water: Not available
Autoignition Temperature: Not available
Decomposition Temperature: Not available
Viscosity: Not available
Specific Gravity/Density: Not available

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. **Keep refrigerated (4˚C).**
Conditions to Avoid: Incompatible materials, ignition sources, and excess heat. Direct sunlight.
Incompatibilities with Other Materials: Strong oxidizing agents, bases, metals, acids, reducing agents, sulfides, sulfites, formaldehyde, permanganates, fluorine, metal oxides, hydroxides, carbonates, metal acetylides, sodium hypochlorite, amines, fluorine, cyanides, sodium/sodium oxides, and alkalis.
Hazardous Decomposition Products: Carbon oxides, hydrogen chloride gas, hydrogen gas, chlorine, iron oxides, chloroform, phosgene, irritating and potentially hazardous fumes and gases.

Section 11 - Toxicological Information

CAS#76-03-9 Trichloroacetic Acid: RTECS#: AJ7875000
LD50 Oral: 3320 mg/kg (rat)
LD50 Dermal: >2000 mg/kg (rat)
LC50 Inhalation: Not available
Tumorigenic and carcinogenic by RTECS criteria.

Carcinogenicity: Trichloroacetic Acid CAS#76-03-9 is not listed by NTP or OSHA. Trichloroacetic Acid is listed by IARC (Group 2B, Possibly Carcinogenic to Humans), ACGIH (A3, Animal Carcinogen) and California Proposition 65 (Carcinogen).
Germ cell mutagenicity: Mouse (lymphocyte), some mutation in mammalian cells. Chromosome aberration (human lymphocytes).
Reproductive Effects: Trichloroacetic Acid is reprotoxic.

CAS#10025-77-1 Ferric Chloride Hexahydrate: RTECS#: NO5425000
LD50 Oral: 900 mg/kg (rat)
LD50 Dermal: Not available
LC50 Inhalation: Not available

Carcinogenicity: Ferric Chloride Hexahydrate CAS#10025-77-1 is not listed by IARC, NTP, ACGIH, OSHA, or California Prop. 65.

CAS#7647-01-0 Hydrochloric Acid: RTECS#: MW4025000
LD50 Oral: 238-277 mg/kg (rat)
LD50 Dermal: >5010 mg/kg (rabbit)
LC50 Inhalation: 1.68 mg/L 1h (rat)

Carcinogenicity: Hydrochloric Acid CAS#7647-01-0 is not listed by NTP, ACGIH, OSHA, or California Prop. 65. Hydrochloric Acid is listed by IARC (Group 3, Not Classifiable as to its Carcinogenicity to Humans).

Information on the likely routes of exposure: Routes of entry anticipated: oral, dermal, inhalation, and eye.

Epidemiology: Not available.
Teratogenicity: Not available.
Reproductive Effects: Trichloroacetic Acid is reprotoxic.
Developmental Effects: Not available.
Neurotoxicity: Not available.
Mutagenicity: Investigated for germ cell mutagenicity in animal studies (Hydrochloric Acid). Mouse (lymphocyte), some mutation in mammalian cells. Chromosome aberration (human lymphocytes) (Trichloroacetic Acid).
Specific Target Organ Toxicity, Single Exposure: Respiratory tract.
Specific Target Organ Toxicity, Repeated Exposure: Not available.

Symptoms associated with exposure: Causes serious eye damage. Eye contact may cause pain, watering, redness, risk of blindness. May cause irreversible damage to eyes. Skin contact may cause burns, pain, irritation, redness, blistering. Ingestion may cause burns, stomach pains, diarrhea, vomiting, nausea, severe swelling, and danger of perforation. Inhalation may cause respiratory track irritation, cough, dizziness, headache, wheezing, inflammation, pulmonary edema.

The toxicological properties of this material have not been thoroughly investigated.

Section 12 - Ecological Information

Ecotoxicity: Do not release to the environment. Do not release to drains. Toxic to aquatic life with long lasting effects. May cause long-term adverse effects to the environment.

CAS#76-03-9 Trichloroacetic Acid:
LC50, freshwater fish: >277 mg/L
LC50, freshwater algae: 0.27 mg/L
EC50, water flea: 2000 mg/L 48h (daphnia magna)
EC50, bacteria: 35 mg/L 15min (photobacterium phosphoreum)

CAS#10025-77-1 Ferric Chloride Hexahydrate:
LC50, freshwater fish: 20.95-22.56 mg/L 96h semi-static (pimephales promelas)(fathead minnow) (anhydrous substance)
LC50, freshwater fish: 20.26 mg/L 96h semi-static (lepomis macrochirus)(bluegill) (anhydrous substance)
EC50, water flea: 9.6 mg/L 48h static (daphnia magna) (anhydrous substance)

CAS#7647-01-0 Hydrochloric Acid:
LC50, freshwater fish: 282 mg/L 96h (gambusia affinis)(mosquito fish)
LC50, freshwater fish: 862 mg/L (leuciscus idus)(golden orfe)
EC50, water flea: 56 mg/L 72h (daphnia magna)

Persistence and degradability: Trichloroacetic Acid is not readily biodegradable.
Bio-accumulative potential: Not available
Mobility: Will likely be mobile in the environment due to its water solubility.

Section 13 - Disposal Considerations

DISPOSAL: Dispose of in accordance with all federal, state, and local regulations.

Section 14 – Transport Information

DOT
Proper shipping name: Trichloroacetic acid, solution
UN2564
PG II
Hazard class 8

Section 15 - Regulatory Information

Canada Regulatory Information

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the SDS contains all the information required by the CPR.

Section 16 - Additional Information

SDS Creation Date: 10/15/12
Revision #1: 11/26/14 YM
Revision #2: 1-18-22
Revision #3: 3-19-24