# SAFETY DATA SHEET

*Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS, Australian WorkSafe, European Union Standards, the Mexican NOM018-STPS 2000 Standard and the Global Harmonization Standard*

## PART I *What is the material and what do I need to know in an emergency?*

### 1. IDENTIFICATION of the SUBSTANCE or PREPARATION

**IDENTIFICATION of the SUBSTANCE or PREPARATION:**

**Trade Name (As Labeled):** **CF-1**
**Chemical Name/Class:** Potassium Dichromate/Perchloric Acid Solution
**Synonyms:** Not Applicable
**Product Use:** Imaging

**COMPANY/UNDERTAKING IDENTIFICATION:**

**Supplier/Manufacturer's Name:** **Thermo Fisher Scientific**
**Address:** 3411 Silverside Road,
Bancroft Building, Suite 100
Wilmington, DE 19810, USA
**Information Phone:** 302-479-7707
**Supplier/Importer's Name (Australia):** **Thermo Fisher Scientific Australia Pty Ltd**
**Address:** 5 Caribbean Drive
Scoresby, VIC 3179, Australia
**Business Phone:** 1300-735-292 (local), +61-3-9757-4486 (international)

**EMERGENCY PHONE:** U.S./Canada/Puerto Rico/U.S. Virgin Islands: (800) 535-5053 (**INFOTRAC**)
Outside North America: 1-352-323-3500 (Collect-**INFOTRAC**)

**DATE OF PREPARATION:** March 12, 2007
**DATE OF REVISION:** August 9, 2015

ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-2004 format. 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. The product is also classified per all applicable EU Directives through EC 1907: 2006, the European Union CLP EC 1272/2008 and the Global Harmonization Standard.

### 2. HAZARD IDENTIFICATION

**GLOBAL HARMONIZATION AND EU CLP REGULATION (EC) 1272/2008 LABELING AND CLASSIFICATION:** This product has been classified per GHS Standards under European regulations. For information on EU classification under (67/548/EEC), see below.

**Classification:** Not Applicable **Signal Words:** Not Applicable **Hazard Statement Codes:** Not Applicable
**Precautionary Statement Codes:** Not Applicable **Hazard Symbols/Pictograms:** Not Applicable

**LABELING AND CLASSIFICATION UNDER EU 67/548/EEC and AUSTRALIAN NATIONAL OCCUPATION HEALTH AND SAFETY COMMISSION:** This product has been classified as per the European Union Directive 67/548/EEC and subsequent amendments to the directive and Australian National Occupational Health and Safety Commission [NOHSC(1008:2004)].

**Classification:** Not Applicable **Risk Phrase Codes:** Not Applicable **Safety Phrases:** Not Applicable

**EMERGENCY OVERVIEW: Product Description:** This product is a clear, odorless, yellow liquid. **Health Hazards:** The primary health hazard associated with this material is the potential for mild to moderate irritation of contaminated tissue. **Flammability Hazards:** This material is not flammable. **Reactivity Hazards:** This material is not reactive. **Environmental Hazards:** No significant effects are expected to occur to the environment; however all release to the environment should be avoided. **Emergency Recommendations:** Emergency responders must wear the personal protective equipment suitable for the situation to which they are responding.

### 3. COMPOSITION and INFORMATION ON INGREDIENTS

| Chemical Name | CAS # | European EINECS # | Australian AICS Inventory | WT% | LABEL ELEMENTS<br>EU Classification (67/548/EEC)<br>GHS & EU Classification (1272/2008 EC)<br>Risk Phrases/Hazard Statements |
|---|---|---|---|---|---|
| Water and other trace components. Each of the other components is present in less than 1 percent concentration (0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers, and mutagens). | | | | 100% | EU 67/548 Hazard Classification: Not Applicable<br>GHS & EU 1272/2008 Classification: Not Applicable |

See Section 16 for full classification information of product and components.

## PART II *What should I do if a hazardous situation occurs?*

### 4. FIRST-AID MEASURES

**PROTECTION OF FIRST AID RESPONDERS:** Rescuers should not attempt to retrieve victims of exposure to hazardous materials without adequate personal protective equipment. Rescuers should be taken for medical attention, if necessary. Only trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation when necessary. See Sections 6 (Accidental Release Measures) and 8 (Exposure Controls-Personal Protection).

**DESCRIPTION OF FIRST AID MEASURES:** Take a copy of label and SDS to physician or health professional with the contaminated individual.

**Skin Exposure:** If this material contaminates the skin, decontaminate with running water and soap. The minimum recommended flushing time is 20 minutes. Remove exposed or contaminated clothing, taking care not to contaminate eyes. The contaminated individual must seek medical attention if any adverse effect occurs.

## 4. FIRST-AID MEASURES (Continued)

**DESCRIPTION OF FIRST AID MEASURES (continued):**

**Skin Exposure:** If this material contaminates the skin, decontaminate with running water and soap. The minimum recommended flushing time is 20 minutes. Remove exposed or contaminated clothing, taking care not to contaminate eyes. The contaminated individual must seek medical attention if any adverse effect occurs.

**Eye Exposure:** If this product enters the eyes, open the contaminated individual's eyes while under gently running water. Use sufficient force to open eyelids. Have the contaminated individual "roll" eyes. Minimum flushing is for 20 minutes. The contaminated individual must seek medical attention if any adverse effect occurs.

**Inhalation:** If this material is inhaled, remove the contaminated individual to fresh air. If necessary, remove or cover gross contamination to avoid exposure to rescuers. Seek medical attention if adverse effect occurs after removal to fresh air.

**Ingestion:** If this material is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING, unless directed by medical personnel. Have victim rinse mouth with water if conscious. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow. If vomiting occurs, lean patient forward or place on left side (head-down position if possible) to maintain an open airway and prevent aspiration.

**IMPORTANT SYMPTOMS AND EFFECTS:** See Sections 3 (Hazard Identification) and 11 (Toxicological Information).

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Skin, central nervous system, liver, or kidney disorders may be aggravated by prolonged exposure to this material.

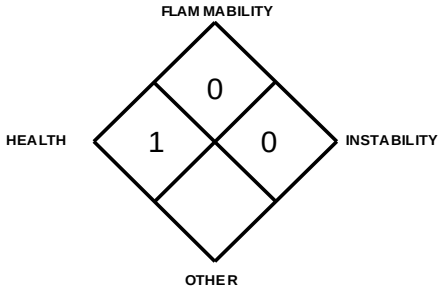
**INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT IF NEEDED:** Treat symptoms and eliminate exposure.

**PROTECTION OF FIRST AID RESPONDERS:** Rescuers should be taken for medical attention if necessary.

## 5. FIRE-FIGHTING MEASURES

**FLASH POINT:** Not flammable.
**AUTOIGNITION TEMPERATURE:** Not applicable.
**FLAMMABLE LIMITS (in air by volume, %):** Not applicable.
**FIRE EXTINGUISHING MEDIA:** Use fire extinguishing materials appropriate for surrounding materials.
**UNSUITABLE FIRE EXTINGUISHING MEDIA:** None known.
**SPECIAL HAZARDS ARISING FROM THE PRODUCT:** When involved in a fire, this material may decompose and produce irritating vapors and toxic gases (e.g., potassium compounds and hydrogen chloride).
**Explosion Sensitivity to Mechanical Impact or Static Discharge:** Not sensitive.
**SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS:** Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas. If necessary, rinse fire-response equipment with water before returning it to service.
**AUSTRALIAN HAZCHEM CODE:** Not applicable.

**NFPA RATING**




Hazard Scale: **0** = Minimal **1** = Slight **2** = Mild to moderate **3** = Serious **4** = Severe

## 6. ACCIDENTAL RELEASE MEASURES

**PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:** Proper protective equipment should be used. In the event of a spill, clear the area and protect people. The atmosphere must have levels of components lower than those listed in Section 8, (Exposure Controls and Personal Protective Equipment) if applicable, and have at least 19.5 percent oxygen before personnel can be allowed into the area without Self-Contained Breathing Apparatus (SCBA).Call CHEMTREC (1-800-424-9300) for emergency assistance. Or if in Canada, call CANUTEC (613-996-6666).

**PROTECTIVE EQUIPMENT:**

**Small Spills:** Wear rubber gloves, splash goggles, and appropriate body protection.

**Large Spills:** Minimum Personal Protective Equipment should be rubber gloves, rubber boots, face shield, and Tyvek suit**.** Minimum level of personal protective equipment for releases in which the level of oxygen is less than 19.5% or is unknown must be **Level B: triple-gloves (rubber gloves and nitrile gloves over latex gloves), chemical resistant suit and boots, hard hat, and Self-Contained Breathing Apparatus.**

**METHODS FOR CLEAN-UP AND CONTAINMENT:**

**Small Spills:** Absorb spilled liquid with polypads or other suitable absorbent materials. Neutralize residue with appropriate non-reacting agent. Place spilled material in appropriate container for disposal, sealing tightly. Remove all residues before decontamination of spill area.

**Large Spills:** Access to the spill area should be restricted. Spread should be limited diking spill area. Absorb spilled liquid with polypads or other suitable absorbent materials. Neutralize residue with appropriate non-reacting agent. Monitor the surrounding area

for oxygen levels. The atmosphere must have at least 19.5 % oxygen before personnel can be allowed in the area without Self-Contained Breathing Apparatus.

**All Spills:** Avoid generation of aerosols. Place all spill residue in an appropriate container and dispose of properly. Decontaminate the area thoroughly. After all spill residue has been removed from the area, rinse the area with flooding quantities of water. If necessary, discard all stained response equipment or rinse with soapy water before returning such equipment to service.

**ENVIRONMENTAL PRECAUTIONS:** Prevent material from entering sewer or confined spaces, waterways, soil or public waters. Do not flush to sewer.

**REFERENCE TO OTHER SECTIONS:** See Section 13, Disposal Considerations for more information.

## PART III *How can I prevent hazardous situations from occurring?*

### 7. HANDLING and STORAGE

**PRECAUTIONS FOR SAFE HANDLING:** All employees who handle this material should be trained to handle it safely. As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat, drink, smoke, or apply cosmetics while handling this product. Use in a well-ventilated location. If during the use of this product, dusts or particulates are generated, avoid breathing, or skin or eye contact. Use in a well-ventilated location, segregated from other materials and operations. Open containers slowly on a stable surface. Containers of this product must be properly labeled. Areas in which this product is used should be wiped down, so that this product does not accumulate.

**CONDITIONS FOR SAFE STORAGE:** Store in sealed containers. Store this product in a cool, dry location, away from sources of intense heat. Store away from incompatible materials (see Section 10, Stability and Reactivity) and moisture. Use in a well-ventilated location, segregated from other materials and operations. Contact with water can result in generation of carbon dioxide and may cause closed containers to burst. Have appropriate extinguishing equipment in the storage area (e.g., sprinkler system, portable fire extinguishers). Storage facilities should be made of fire resistant materials. Walls, floors, shelving and lighting systems in the storage area should be made from materials that resist attack from Ammonium Chloride.

**SPECIFIC USE(S):** This product is used in imaging. Follow all industry standards for use of this product.

**PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT:** When cleaning non-disposable equipment, wear latex or butyl rubber (double gloving is recommended), goggles, and lab coat. Wash equipment with soap and water. Wipe equipment down with damp sponge or polypad. Collect all rinsates and dispose of according to applicable Federal, State, and local procedures standards.

### 8. EXPOSURE CONTROLS - PERSONAL PROTECTION

**EXPOSURE LIMITS/CONTROL PARAMETERS:**

**Ventilation and Engineering Controls:** Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below. Use local exhaust ventilation. If necessary, refer to Australian National Code of Practice for the Control of Workplace Hazardous Substances [NOHSC: 2007 (1994)] for further information. As with all chemicals, ensure proper decontamination equipment (e.g., eyewash/safety shower stations) is available near areas where this material is used as necessary.

**Occupational/Workplace Exposure Limits/Guidelines:**

| CHEMICAL NAME | CAS # | EXPOSURE LIMITS IN AIR | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | ACGIH-TLVs | | OSHA-PELs | | NIOSH-RELs | | NIOSH | OTHER |
| | | TWA ppm | STEL ppm | TWA ppm | STEL ppm | TWA ppm | STEL ppm | IDLH ppm | ppm |
| Water | 7732-18-5 | NE | NE | NE | NE | NE | NE | NE | NE |

NE = Not Established.

**International Occupational Exposure Limits:** Not applicable to components of this product present in greater than 1 percent concentration (0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers, and mutagens).

**PROTECTIVE EQUIPMENT:** The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132, including U.S. Federal OSHA Respiratory Protection (29 CFR 1910.134), OSHA Eye Protection 29 CFR 1910.133, OSHA Hard Protection 29 CFR 1910.138, OSHA Foot Protection 29 CFR 1910.136 and OSHA Body Protection 29 CFR1910.132), equivalent standards of Canada (including CSA Respiratory Standard Z94.4-02, Z94.3-M1982, *Industrial Eye and Face Protectors* and CSA Standard Z195-02, *Protective Footwear*), or standards of EU member states (including EN 529:2005 for respiratory PPE, CEN/TR 15419:2006 for hand protection, and CR 13464:1999 for face/eye protection) or for the Australian Standard 1716-Respiratory Protective Devices and Australian Standard 1715-Selection, Use, and Maintenance of Respiratory Protective Devices, the Australian Standard 2161-Industrial Safety Gloves and Mittens, the Australian

Standard 1337-Eye Protection for Industrial Applications and Australian Standard 1336-Recommended Practices for Eye Protection in the Industrial Environment, Australian Standard 3765-Clothing for Protection Against Hazardous Chemicals and standards of Mexico. Please reference applicable regulations and standards for relevant details.

**Respiratory Protection:** None needed under normal circumstances of use. If necessary, use only respiratory protection authorized under appropriate regulations. Oxygen levels below 19.5% are considered IDLH by U.S. OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under U.S. Federal OSHA's Respiratory Protection Standard (1910.134-1998) or the regulations of various U.S. States, Canada, Mexico, Australia, or EU Member States.

**Hand Protection:** Wear latex or nitrile gloves for routine use. Check gloves for leaks. If necessary, refer to appropriate standards and regulations for further information.

**Eye Protection:** None needed under normal circumstances of use. Splash goggles or safety glasses should be worn during operations in which sprays of liquid may occur. If necessary, refer to appropriate regulations and standards further information.

**Body/Skin Protection:** None needed under normal circumstances of use. Use body protection appropriate for task (e.g., lab coat when cleaning equipment; rubber apron and boots during non-incidental spill response). If necessary, refer to appropriate regulations and standards.

## 9. PHYSICAL and CHEMICAL PROPERTIES

**FORM**: Liquid.
**COLOR:** Clear, colorless.
**VAPOR DENSITY (air = 1):** Not established.
**EVAPORATION RATE (*n*-BuAc = 1):** Not established.
**SPECIFIC GRAVITY (water = 1):** Similar to water.
**MELTING/FREEZING POINT:** Not established.
**SOLUBILITY IN WATER:** Soluble
**BOILING POINT:** Not established.
**VAPOR PRESSURE:** Not established.
**pH:** Not applicable.
**ODOR THRESHOLD:** Not established.
**OXIDIZING PROPERTIES:** Not an oxidizer.
**EXPLOSIVE PROPERTIES:** Not explosive.
**DECOMPOSITION TEMPERATURE:** Not applicable.
**COEFFICIENT OF OIL/WATER DISTRIBUTION (PARTITION COEFFICIENT):** Not established.
**APPEARANCE, ODOR AND COLOR:** This product is a clear, odorless, yellow liquid.
**HOW TO DETECT THIS SUBSTANCE (identification properties):** There are no good properties to identify this product in event of accidental spill.

## 10. STABILITY and REACTIVITY

**CHEMICAL STABILITY:** Stable under conditions of normal temperature and pressure.
**DECOMPOSITION PRODUCTS: Combustion:** Potassium compounds and hydrogen chloride. **Hydrolysis:** None known.
**MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE:** Water reactive materials.
**POSSIBLE HAZARDOUS REACTIONS/POLYMERIZATION:** Will not occur.
**CONDITIONS TO AVOID:** Exposure to or contact with extremely high temperatures, incompatible chemicals.

# PART IV *Is there any other useful information about this material?*

## 11. TOXICOLOGICAL INFORMATION

**SYMPTOMS OF EXPOSURE BY ROUTE OF EXPOSURE:** The most significant routes of occupational exposure are inhalation and contact with skin and eyes. The symptoms of exposure to this material, via route of entry, are as described below.

**Inhalation:** This product does not normally present a significant inhalation hazard under anticipated circumstances of use. Inhalation exposure of mists or sprays of this product may cause coughing and sneezing.

**Contact with Skin or Eyes:** Contact with the skin may cause mild irritation, which is alleviated upon rinsing. Prolonged or repeated skin contact may cause dermatitis (dry, red skin). Eye contact may cause irritation and tearing.

**Skin Absorption:** Components may be absorbed through the skin. Absorption is not anticipated to be a significant route of exposure due to the dilute nature of this product.

**Ingestion:** Ingestion is not anticipated to be a significant route of exposure for this component. If this product is swallowed it may cause gastric distress. Symptoms from a severe exposure may include nausea, vomiting, and diarrhea.

**Injection:** Accidental injection of this liquid (as may occur by a puncture with a contaminated object) may cause pain, irritation, and redness in addition to the wound.

**HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in Lay Terms:** In the event of exposure, the following symptoms may be observed:

**Acute:** Exposure may mildly to moderately irritate contaminated tissue.
**Chronic:** Repeated skin exposure can cause dermatitis (dry, red skin).

**TARGET ORGANS: Acute:** Skin, eyes. **Chronic:** Skin.

**DEGREE OF EFFECT TO THE HEALTH OF THE POLLUTING AGENT OF ENVIRONMENT OF WORK (per Mexican NOM-010 STPS-1999):** 0

**TOXICITY DATA:** No toxicity data is presented, as there are no components of this product present in greater than 1% concentration.

**CARCINOGENIC POTENTIAL:** This product is not found on the following lists: U.S. EPA, U.S. NTP, U.S. OSHA, U.S. NIOSH, GERMAN MAK, IARC, and ACGIH, and therefore is neither considered to be nor suspected to be a cancer-causing agent by these agencies.

**IRRITANCY OF PRODUCT:** This product may mildly to moderately irritate contaminated skin, eyes, and any other contaminated tissues.

**SENSITIZATION TO THE PRODUCT:** The components of this product are not known to be human respiratory or skin sensitizers.

**REPRODUCTIVE TOXICITY INFORMATION:** This product has not been tested for reproductive toxicity; however, no component is known to cause human mutagenic, embryotoxic, teratogenic or reproductive toxicity.

**BIOLOGICAL EXPOSURE INDICES:** Currently, there are no Biological Exposure Indices (BEIs) established for the components of this product.

**HAZARDOUS MATERIAL IDENTIFICATION SYSTEM**

| | | |
|---|---|---|
| **HEALTH HAZARD** | (BLUE) | 1 |
| **FLAMMABILITY HAZARD** | (RED) | 0 |
| **PHYSICAL HAZARD** | (YELLOW) | 0 |

**PROTECTIVE EQUIPMENT**

| EYES | RESPIRATORY | HANDS | BODY |
|---|---|---|---|
|  | SEE SECTION 8 |  | SEE SECTION 8 |

For Routine Industrial Use and Handling Applications

Hazard Scale: **0** = Minimal **1** = Slight **2** = Mild to moderate
**3** = Serious **4** = Severe * = Chronic hazard

## 12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

**MOBILITY IN SOIL:** This product has not been tested for mobility in soil. It is not expected to be mobile.

**PERSISTENCE AND BIODEGRADABILITY:** This product has not been tested for persistence or biodegradability.

**BIO-ACCUMULATION POTENTIAL:** This product is not expected to have bio-accumulation potential.

**ECOTOXICITY:** This product has not been tested for aquatic or animal toxicity.

**OTHER ADVERSE EFFECTS:** Components of this product are not listed or expected to have having ozone depletion potential.

**RESULTS OF PBT AND vPvB ASSESSMENT:** No data available. PBT and vPvB assessments are part of the chemical safety report required for some substances in European Union Regulation (EC) 1907/2006, Article 14.

**ENVIRONMENTAL EXPOSURE CONTROLS:** Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

## 13. DISPOSAL CONSIDERATIONS

**WASTE TREATMENT/DISPOSAL METHODS:** It is the responsibility of the generator to determine at the time of disposal whether the product meets the criteria of a hazardous waste per regulations of the area in which the waste is generated and/or disposed of. Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Shipment of wastes must be done with appropriately permitted and registered transporters.

**DISPOSAL CONTAINERS:** Waste materials must be placed in and shipped in appropriate 5-gallon or 55-gallon poly or metal waste pails or drums. Permeable cardboard containers are not appropriate and should not be used. Ensure that any required marking or labeling of the containers be done to all applicable regulations.

**PRECAUTIONS TO BE FOLLOWED DURING WASTE HANDLING:** Wear proper protective equipment when handling waste materials. Dispose of in accordance with applicable Federal, State, and local procedures and standards.

**EPA WASTE NUMBER:** Not applicable.

**EUROPEAN WASTE CODES:** Not applicable.

## 14. TRANSPORTATION INFORMATION

This product is not classified under any jurisdiction as Dangerous Goods and has no UN Number, Hazard Class or Packing Group or Special Precautions for User.

**U.S. DEPARTMENT OF TRANSPORTATION REGULATIONS:** This product is not classified as dangerous goods, per U.S. DOT regulations, under 49 CFR 172.101.

**TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS:** This product is not classified as Dangerous Goods, per regulations of Transport Canada.

**INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA):** This product is not classified as dangerous goods, per the International Air Transport Association.

**INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO):** This product is not classified as dangerous goods, per the International Maritime Organization.

**EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR):** This product is not classified by the Economic Commission for Europe to be dangerous goods.

**OFFICIAL MEXICAN STANDARD; REGULATION FOR THE TRANSPORT OF DANGEROUS GOODS AND RESIDUES:** This product is not classified as Dangerous Goods, per transport regulations of Mexico.

**AUSTRALIAN FEDERAL OFFICE OF ROAD SAFETY CODE FOR THE TRANSPORTATION OF DANGEROUS GOODS BY ROAD OR RAIL:** This product is NOT classified as dangerous goods, per regulations of the Australian Federal Office of Road Safety.

**AUSTRALIAN HAZCHEM CODE:** Not applicable.

**TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE:** Not applicable.

**ENVIRONMENTAL HAZARDS:** This product is neither environmentally hazardous according to the criteria of the UN Model Regulations (as reflected in the IMDG Code, ADR, RID, and ADN) nor a marine pollutant according to the IMDG Code.

## 15. REGULATORY INFORMATION

### UNITED STATES REGULATIONS:

**U.S. SARA Reporting Requirements:** This product is not subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act.

**U.S. SARA Threshold Planning Quantity (TPQ):** There are no specific Threshold Planning Quantities for this material. The default Federal SDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) may apply, per 40 CFR 370.20.

**U.S. CERCLA Reportable Quantity (RQ):** Not applicable.

**U.S. TSCA Inventory Status:** The components of this product are listed on the TSCA Inventory.

**U.S. Hazardous Air Pollutant (HAPs):** The components of is product are not listed by the EPA under section 112(b) of the Clean Air Act as a 'HAP'.

**Other U.S. Federal Regulations:** Not applicable.

**California Safe Drinking Water and Toxic Enforcement Act (Proposition 65):** The components of this product are not on the Proposition 65 Lists.

### CANADIAN REGULATIONS:

**Canadian DSL/NDSL Inventory Status:** The components of this product are listed on the DSL Inventory.
**Canadian Environmental Protection Act (CEPA) Priority Substances Lists:** This product is not on the CEPA Priority Substances Lists.
**Canadian WHMIS Classification and Symbols:** Not applicable.

### EUROPEAN UNION INFORMATION:

**Safety, Health, and Environmental Regulations/Legislation Specific For The Product:** Currently, there is no specific legislation pertaining to this product.
**Chemical Safety Assessment:** No data available. The chemical safety assessment is required for some substances according to European Union Regulation (EC) 1907/2006, Article 14.

### AUSTRALIAN REGULATIONS:

**Hazardous Substances Information System (HSIS):** The components of this product are not listed in the HSIS.
**Standard for the Uniform Scheduling of Drugs and Poisons:** Not applicable.
**Labeling and Classification:** This product does not meet the definition of any hazard class, based a review of the regulation [NOHSC: 10005 (1994)]:

## 16. OTHER INFORMATION

**U.S. ANSI LABELING (Z129.1): CAUTION!** MAY CAUSE SKIN, EYE, AND RESPIRATORY TRACT IRRITATION. Use with adequate ventilation. Avoid contact with skin, eyes, and clothing. Avoid breathing vapors, mists, or sprays. Do not taste or swallow. Wash thoroughly after handling. Wear appropriate hand and eye protection. **FIRST-AID:** In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. If inhaled, remove to fresh air. If swallowed, do not induce vomiting. Get medical attention if irritation develops or persists or if any other adverse effect occurs. **IN CASE OF FIRE:** Use water fog, dry chemical, or $CO_2$, or alcohol foam. **IN CASE OF SPILL:** Absorb spill with inert materials (e.g., polypads, dry sand). Rinse area with soapy water. Consult Material Safety Data Sheet for additional information.

**GLOBAL HARMONIZATION AND EU CLP REGULATION (EC) 1272/2008 LABELING AND CLASSIFICATION:** This product has been classified per GHS Standards under European regulations. For information on EU classification under (67/548/EEC), see below.

**Classification:** Not Applicable **Signal Words:** Not Applicable **Hazard Statement Codes:** Not Applicable

**LABELING AND CLASSIFICATION UNDER EU 67/548/EEC and AUSTRALIAN NATIONAL OCCUPATION HEALTH AND SAFETY COMMISSION:** This product has been classified as per the European Union Directive 67/548/EEC and subsequent amendments to the directive and Australian National Occupational Health and Safety Commission [NOHSC(1008:2004)].

**Classification:** Not Applicable **Risk Phrases:** Not Applicable **Safety Phrases:** Not Applicable

**REVISIONS DETAILS:** All sections were revised January 6, 2011 to conform with European Union Regulation (EC) 1272/2008 and subsequent amendments and ANSI Standard Z400.1-2010. August 1015: Review and up-date to most current form.

**REFERENCES AND DATA SOURCES:** Contact the supplier for information.

**PREPARED BY:** CHEMICAL SAFETY ASSOCIATES, Inc.
PO Box 1961, Hilo, HI 96721
800/441-3365

**DATE OF PRINTING:** August 28, 2015

# HYTEST CF-1 CHEMICAL FLUSH

# SAFETY DATA SHEET

OSHA HCS (29 CFR 1910.1200)

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**Product identifier**

| | |
|---|---|
| Chemical Name | Mixture |
| CAS No. | Mixture |
| Trade Name | HYTEST CF-1 CHEMICAL FLUSH |
| Product Code | M-5891 |

**Relevant identified uses of the substance or mixture and uses advised against**

| | |
|---|---|
| Identified Use(s) | Solvent |
| Uses Advised Against | None |
| Company Identification | Hy-Test Packaging<br>515 East 41st Street<br>Paterson, NJ 07504 |
| Telephone | 973-754-7000 |
| Fax | 973-754-7020 |
| E-Mail (competent person) | info@hy-testpackaging.com |

**Emergency telephone number**

| | |
|---|---|
| Emergency Phone No. | **Transportation Emergency:** CHEMTREC 24 hr. 1-800-424-9300 / 1 (703) 527-3887 (Collect calls accepted) |

## SECTION 2: HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

OSHA HCS (29 CFR 1910.1200) — Flam. Aerosol 2; Compressed dissolved gas; Carc. 2; STOT SE 3; Asp. Tox. 1; Eye Irrit. 2

**Label elements**

Hazard Symbol

Signal word(s): **DANGER**

Hazard Statement(s):

Flammable aerosol.
Contains gas under pressure; may explode if heated.
May cause drowsiness or dizziness.
Causes serious eye irritation.
May be fatal if swallowed and enters airways.
Suspected of causing cancer.

Precautionary Statement(s):

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
Do not spray on an open flame or other ignition source.
Do not pierce or burn, even after use.
Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands and exposed skin after use.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Protect from sunlight and do not expose to temperatures exceeding 50 ºC/122 ºF.

**Other hazards**

Toxic to aquatic life. Toxic to aquatic life with long lasting effects

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Hazardous Ingredient(s) | % wt. * | CAS No. | Hazard classification |
|---|---|---|---|
| Isopropanol ^ | 70 - 75 | 67-63-0 | Flam. Liq. 2; H225<br>Eye Irrit. 2; H319<br>STOT SE 3; H336 |
| Petroleum distillate ^^ | 20 - 25 | Trade Secret | Flam. Liq. 4; H227<br>STOT SE 3; H336<br>Carc. 2; H351<br>Asp. Tox. 1; H304<br>Aquatic Acute 2; H401<br>Aquatic Chronic 2; H411 |
| Carbon dioxide | 3.5 | 124-38-9 | Compressed dissolved gas; H280 |

**Additional Information -** Substances in the product which may present a health or environmental hazard, or which have been assigned occupational exposure limits, are detailed below.**:**

^^ Contains: Ethanol (CAS No. 64-17-5), < 1%

^ Contains: Naphthalene (CAS No.. 91-20-3), < 2.3% and 1,2,4 trimethylbenzene (CAS No. 95-63-6), 0.4%

* The exact percentage withheld as a trade secret in accordance with 29 CFR 1910.1200.

## SECTION 4: FIRST AID MEASURES

**Description of first aid measures**

| | |
|---|---|
| Inhalation | Move person to fresh air. If breathing is labored, administer oxygen. If symptoms develop, obtain medical attention. |
| Skin Contact | Wash affected skin with soap and water. If symptoms develop, obtain medical attention. |
| Eye Contact | Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention. |
| Ingestion | Do not give anything by mouth to an unconscious person. Seek medical treatment. Do not induce vomiting. |
| **Most important symptoms and effects, both acute and delayed** | May be fatal if swallowed and enters airways. |
| **Indication of any immediate medical attention and special treatment needed** | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. |

## SECTION 5: FIRE-FIGHTING MEASURES

**Extinguishing Media**

| | |
|---|---|
| -Suitable Extinguishing Media | Extinguish with carbon dioxide, dry chemical, foam or water spray. |
| -Unsuitable Extinguishing Media | Do not use water jet. |
| **Special hazards arising from the substance or mixture** | None |
| **Advice for fire-fighters** | A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions. Keep containers cool by spraying with water if exposed to fire. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures** — Eliminate sources of ignition. Avoid contact with skin and eyes. Avoid breathing spray. Wear protective gloves/eye protection.

**Environmental precautions** — Prevent liquid entering sewers, basements and work pits.

**Methods and material for containment and cleaning up** — Cover spills with inert absorbent material. Transfer to a container for disposal or recovery.

**Reference to other sections** — None

**Additional Information** — None

## SECTION 7: HANDLING AND STORAGE

**Precautions for safe handling** — Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Avoid breathing vapors.

**Conditions for safe storage, including any incompatibilities**

-Storage temperature — Keep in a cool, well ventilated place. Store at temperatures not exceeding 50 °C / 122 °F.

-Incompatible materials — This product should be stored away from sources of strong heat or oxidizing chemicals.

**Specific end use(s)** — Solvent

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Occupational Exposure Limits**

| SUBSTANCE. | CAS No. | (8hr TWA) | | (STEL) | | Note: |
|---|---|---|---|---|---|---|
| | | PEL (OSHA) | TLV (ACGIH) | PEL (OSHA) | TLV (ACGIH) | |
| Aromatics (C9-C15) | ------- | ------- | 100 mg/m3 | ------- | ------- | ------- |
| Naphthalene | 91-20-3 | 10 ppm | 10 ppm | 15 ppm | ----- | ----- |
| Carbon dioxide | 124-38-9 | 5000 ppm | 5000 ppm | ------ | 30,000 ppm | # |
| Isopropanol | 67-63-0 | 400 ppm | ------ | 200 ppm | 400 ppm | ----- |

#Assure minimum oxygen content of work atmosphere.

**Recommended monitoring method** — NIOSH 1550 (Naphthas); NIOSH 1501 (Hydrocarbons, aromatic); NIOSH 1400 (Alcohols I)

**Exposure controls**

**Appropriate engineering controls** — Provide adequate ventilation to ensure that the occupational exposure limit is not exceeded.

**Personal protection equipment**

Eye/face protection — Wear protective eyewear (goggles, face shield, or safety glasses).

Skin protection (Hand protection/ Other) — Wear suitable gloves if prolonged skin contact is likely (Nitrile rubber or Butyl rubber). Check with protective equipment manufacturer's data.

| | |
|---|---|
| Respiratory protection  | Normally no personal respiratory protection is necessary. In case of insufficient ventilation, wear suitable respiratory equipment. Check with protective equipment manufacturer's data. |
| Thermal hazards | Not normally required. Use gloves with insulation for thermal protection, when needed. |
| **Environmental Exposure Controls** | Avoid release to the environment. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | |
|---|---|
| Appearance | Aerosol spray |
| Color. | Colorless |
| Odor | Alcohol-like |
| Odor Threshold (ppm) | Not available |
| pH (Value) | Not available |
| Melting Point (°C) / Freezing Point (°C) | Not available |
| Boiling point/boiling range (°C): | 82 ºC (180 ºF) (isopropanol) |
| Flash Point (°C) | 2 ºC (54 ºF) (isopropanol) |
| Evaporation Rate (n-butyl acetate= 1) | Not available |
| Flammability (solid, gas) | Flammable aerosol |
| Explosive Limit Ranges | Not available |
| Vapor pressure (Pascal) | Not available |
| Vapor Density (Air=1) | Not available |
| Density (g/ml) | Not available |
| Solubility (Water) | Not available |
| Solubility (Other) | Not available |
| Partition Coefficient (n-Octanol/water) | Not available |
| Auto Ignition Point (°C) | Not available |
| Decomposition Temperature (°C) | Not available |
| Kinematic Viscosity (cSt) @ 40 °C | < 20.5 |
| Explosive properties | Not explosive. |
| Oxidizing properties | Not oxidizing. |
| **Other information** | Not available |

## SECTION 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | Stable under normal conditions. |
| **Chemical stability** | Stable. |
| **Possibility of hazardous reactions** | None anticipated. |
| **Conditions to avoid** | Avoid contact with heat and ignition sources. |
| **Incompatible materials** | Strong oxidizing agents |
| **Hazardous decomposition product(s)** | Carbon monoxide, Carbon dioxide, Acrid smoke |

## SECTION 11: TOXICOLOGICAL INFORMATION

**Exposure routes:** Inhalation**,** Skin Contact**,** Eye Contact

**Information on toxicological effects**

Petroleum distillate (CAS No. Trade Secret)

| | |
|---|---|
| **Acute toxicity** (calculated / estimated) | Oral: LD50 >5 g/kg-bw<br>Dermal: LD50 >2 g/kg-bw<br>Inhalation: LC50 >20 mg/l (Vapor), 4-hr. rat - May cause drowsiness or dizziness. |
| **Irritation/Corrosivity** | Causes serious eye irritation. Causes skin irritation. Repeated exposure may cause skin dryness or cracking. |
| **Sensitization** | It is not a skin sensitizer. |

**Repeated dose toxicity** No data

**Carcinogenicity** Suspected of causing cancer. *Contains: Naphthalene (CAS No. 91-20-3)

| *NTP | *IARC | *ACGIH | *OSHA | *NIOSH |
|---|---|---|---|---|
| Suspected Human | 2B | A3 | No. | No. |

**Mutagenicity** Not to be expected
**Reproductive toxicity** Not to be expected

Isopropanol (CAS# 67-63-0):

**Acute toxicity** Oral: LD50 = 5.84 g/kg (rat)
Inhalation: LC50 > 1000 ppm (rat) 6 hour(s)
Dermal: LD50 = 16.4 ml/kg (rabbit) 24 hour(s)
May cause drowsiness or dizziness.

**Irritation/Corrosivity** Irritating to eyes.
**Sensitization** It is not a skin sensitizer.

**Repeated dose toxicity** NOAEL = 5,000 ppm (Inhalation)
May cause drowsiness or dizziness.

**Carcinogenicity** It is unlikely to present a carcinogenic hazard to man.

| NTP | IARC | ACGIH | OSHA | NIOSH |
|---|---|---|---|---|
| No. | No. | No. | No. | No. |

**Mutagenicity** There is no evidence of mutagenic potential.
**Reproductive toxicity** Not available

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

Naphthalene (CAS No. 91-20-3):

Short term LC50 (48 hour): 0.96 mg/L (*Oncorhynchus gorbuscha*)
Long Term MACT (30 days): >0.45 to <0.85 mg/L (*Pimephales promelas*)

Petroleum Distillate (CAS No. Trade Secret)

Short term LC50 (96 hour): 3 mg/L (*Oncorhynchus mykiss*)
EL50 (48 hour): 1.1 mg/L (*Daphnia magna*)

Long Term No data

**Persistence and degradability** Part of the components are poorly biodegradable.
**Bioaccumulative potential** The product has no potential for bioaccumulation.
**Mobility in soil** Not available.
**Results of PBT and vPvB assessment** Not classified as PBT or vPvB.
**Other adverse effects** None known.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods** Disposal should be in accordance with local, state or national legislation. Consult an accredited waste disposal contractor or the local authority for advice.

## SECTION 14: TRANSPORT INFORMATION

| | U.S. DOT | Sea transport (IMDG) | Air transport (ICAO/IATA) |
|---|---|---|---|
| **UN number** | 1950 | 1950 | 1950 |
| **Proper Shipping Name** | Aerosols, flammable | Aerosols, flammable | Aerosols, flammable |
| **Transport hazard class(es)** | 2.1 | 2.1 | 2.1 |
| **Packing group** | Not applicable | Not applicable | Not applicable |
| **Environmental hazards** | None assigned | None assigned | None assigned |
| **Special precautions for user** | None assigned | None assigned | None assigned |

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable

## SECTION 15: REGULATORY INFORMATION

**Safety, health and environmental regulations/legislation specific for the substance or mixture:**

**TSCA (Toxic Substance Control Act) -** Inventory Status**:** All components listed or polymer exempt.

**Designated Hazardous Substances and Reportable Quantities (40 CFR 302.4)**:

| Chemical Name | CAS No. | Typical %wt. | RQ (Pounds) |
|---|---|---|---|
| Naphthalene | 91-20-3 | < 2.3 | 100 |

**SARA 311/312 - Hazard Categories:**

☒ Fire ☒ Sudden Release ☐ Reactivity ☒ Immediate (acute) ☒ Chronic (delayed)

**SARA 313 - Toxic Chemicals (40 CFR 372):**

| Chemical Name | CAS No. | Typical %wt. |
|---|---|---|
| Naphthalene | 91-20-3 | < 2.3 |

**SARA 302 - Extremely Hazardous Substances(40 CFR 355):**

| Chemical Name | CAS No. | Typical %wt. | TPQ (pounds) |
|---|---|---|---|
| None | ---- | ---- | ---- |

**California Proposition 65 List:**

| Chemical Name | CAS No. | Type of Toxicity |
|---|---|---|
| Naphthalene | 91-20-3 | Cancer |
| 1,4-Dioxane | 123-91-1 | Cancer |

## SECTION 16: OTHER INFORMATION

**The following sections contain revisions or new statements:** 1-16.
**Date of preparation:** August 1, 2015

**Hazard Statement(s) and Risk Phrases Listed in: SECTION 3:**

**Hazard Statement(s)**

- H225: Highly flammable liquid and vapour.
- H227: Combustible liquid.
- H280: Contains gas under pressure; may explode if heated.
- H304: May be fatal if swallowed and enters airways.
- H318: Causes serious eye damage.
- H336: May cause drowsiness or dizziness.
- H351: Suspected of causing cancer.
- H401: Toxic to aquatic life.
- H411: Toxic to aquatic life with long lasting effects.

**Training advice:** None.

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

## Section VII - - STORAGE AND SPECIAL PRECAUTIONS

| | |
|---|---|
| Handling and Storing Precautions | Store in cool, dry, well ventilated area. Check with local authorities as to warehousing restrictions. Store as Level II flammable aerosol. |
| Other Precautions | Temperatures above 120°F may cause bursting. |

## Section VIII - - FIRE AND EXPLOSION HAZARD DATA

| | | | |
|---|---|---|---|
| DOT Flammability Classification | Consumer commodity ORM-D | Flame Extension | |
| Extinguishing Media | $CO_2$, dry chemical, water fog, or foam | | |
| Unusual Fire and Explosion Hazards | When heated, aerosol cans will rupture and rocket. Keep inventory cool with water fog. | | |
| Fire Fighting Procedures | Wear NIOSH/MESA approved pressure demand, self contained apparatus. | | |

## Section IX - - PHYSICAL DATA

| | | | |
|---|---|---|---|
| Approximate Boiling Range, ° F: 200°F | | Vapor Density: ☒ Heavier ☐ Lighter Than Air | |
| Evaporation Rate: ☐ Faster ☑ Slower Than Butylacetate | | Percent Volatile: 100% | Solubility in Water: 80% |
| Specific Gravity: ☐ Lighter ☒ Heavier Than Water | | Weight per Gallon: 9.4 | |
| Appearance and Odor: | | | |

## Section X - - DOCUMENTARY INFORMATION

| | | |
|---|---|---|
| Product Code No. | Issue Date | Prepared By |
| Replaces: | Product Code No. | Issued |
| Reviewed By: | | |
| Reviewed By: | | |
| Reviewed By: | | |