Material Safety Data Sheet

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M™GLASS CLEANER CONCENTRATE (Product No. 1, Twist 'n Fill™System)
MANUFACTURER: 3M
DIVISION: Commercial Care Division

ADDRESS: 3M Center
St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 05/13/2002
Supercedes Date: 05/13/2002

Document Group: 08-2582-8

Product Use:
Specific Use: Non-streaking cleaner for glass, mirrors, stainless steel, chrome, aluminum, ceramic and plastic.

SECTION 2: INGREDIENTS

Ingredient	C.A.S. No.	% by Wt
1-PROPOXY-2-PROPANOL	1569-01-3	60 - 100
LAURETH-6 CARBOXYLIC ACID	157707-83-0	1 - 5
2-PROPOXY-1-PROPANOL	10215-30-2	1 - 5
DIPROPYLENE GLYCOL	25265-71-8	1 - 5
PROPYLENE GLYCOL	57-55-6	1 - 5
DIPROPYLENE GLYCOL N-PROPYL ETHER	29911-27-1	1 - 5
ETHANOLAMINE	141-43-5	0.5 - 1.5

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Liquid
Odor, Color, Grade: Clear, dark blue color. Ether odor.
General Physical Form: Liquid
Immediate health, physical, and environmental hazards: May cause severe eye irritation. May cause chemical skin burns.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and

impaired vision.

Skin Contact:
Corrosive (Skin Burns): Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

Inhalation:
Single exposure, above recommended guidelines, may cause:
Upper Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, nausea, diarrhea and vomiting.

Chemical (Aspiration) Pneumonitis: Signs/symptoms may include coughing, gasping, choking, burning of the mouth, difficulty breathing, bluish colored skin (cyanosis), and may be fatal.

Target Organ Effects:
Single exposure, above recommended guidelines, may cause:
Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

The route of exposure for Central Nervous System Depression is inhalation.

3.3 POTENTIAL ENVIRONMENTAL EFFECTS

A 3M Product Environmental Data Sheet (PED) is available.

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES
The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water for at least 15 minutes. Get immediate medical attention. Wash contaminated clothing and clean shoes before reuse.

Inhalation: Remove person to fresh air. If signs/symptoms develop, get medical attention.

If Swallowed: Do not induce vomiting. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get immediate medical attention.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	*No Data Available*
Flash Point	118 ºF
Flammable Limits - LEL	*No Data Available*
Flammable Limits - UEL	*No Data Available*
OSHA Flammability Classification:	Class II Combustible Liquid

5.2 EXTINGUISHING MEDIA
Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head. Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

Unusual Fire and Explosion Hazards: Combustible liquid and vapor.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Remove all ignition sources such as flames, smoking materials, and electrical spark sources. Use only non-sparking tools. Ventilate the area with fresh air. Contain spill. Dilute in a large excess of water. Carefully, and with stirring, add appropriate dilute acid such as sulfamic acid or vinegar. Confirm neutrality. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much of the spilled material as possible using non-sparking tools. Clean up residue with water. Place in a closed container approved for transportation by appropriate authorities. Seal the container. Dispose of collected material as soon as possible.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING
Avoid contact with oxidizing agents. Avoid eye contact with vapors, mists, or spray. Avoid breathing of vapors, mists or spray. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Keep away from heat, sparks, open flame, pilot lights and other sources of ignition. Keep container closed when not in use. Keep out of the reach of children.

7.2 STORAGE
Store away from acids. Store away from heat. Store out of direct sunlight. Keep container in well-ventilated area.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS
Use with appropriate local exhaust ventilation. NOTE: When used as directed and diluted and dispensed with a TWIST 'n FILL™Chemical Dispenser, special ventilation is not required.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection
NOTE: When used as directed and diluted and dispensed with a TWIST 'n FILL™Chemical Dispenser, eye contact with the concentrate is not expected to occur. Avoid eye contact.
The following eye protection(s) are recommended: Full Face Shield.

8.2.2 Skin Protection
NOTE: When used as directed and diluted and dispensed with a TWIST 'n FILL™Chemical Dispenser, skin contact with the concentrate is not expected to occur. Avoid skin contact.

Select and use gloves and/or protective clothing to prevent skin contact based on the results an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.
Gloves made from the following material(s) are recommended: Butyl Rubber.

8.2.3 Respiratory Protection
NOTE: When used as directed and diluted and dispensed with a TWIST 'n FILL™Chemical Dispenser, respiratory protection is not required. Avoid breathing of vapors, mists or spray.

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with organic vapor cartridges. Consult the current 3M Respiratory Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.

8.2.4 Prevention of Swallowing
Do not ingest. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

8.3 EXPOSURE GUIDELINES

Ingredient	Authority	Type	Limit	Additional Information
ETHANOLAMINE	ACGIH	TWA	3 ppm	
ETHANOLAMINE	ACGIH	STEL	6 ppm	
ETHANOLAMINE	OSHA	TWA	3 ppm	Table Z-1A
ETHANOLAMINE	OSHA	STEL	6 ppm	Table Z-1A
PROPYLENE GLYCOL	AIHA	TWA - specific form	50 ppm	as vapor and aerosol

SOURCE OF EXPOSURE LIMIT DATA:
ACGIH: American Conference of Governmental Industrial Hygienists
CMRG: Chemical Manufacturer Recommended Guideline
OSHA: Occupational Safety and Health Administration
AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Liquid
Odor, Color, Grade:	Clear, dark blue color. Ether odor.
General Physical Form:	Liquid
Autoignition temperature	*No Data Available*
Flash Point	118 ºF
Flammable Limits - LEL	*No Data Available*
Flammable Limits - UEL	*No Data Available*
Boiling point	Approximately 300 ºF
Density	0.88
Vapor Density	*No Data Available*
Vapor Pressure	No Data Available
Specific Gravity	Approximately 0.88 [*Ref Std:* WATER=1]
pH	Approximately 10 [*Details:* 10% in water]
Melting point	*No Data Available*
Solubility in Water	Complete
Evaporation rate	*No Data Available*
Volatile Organic Compounds	>=90 %
Percent volatile	>=90 %
VOC Less H2O & Exempt Solvents	*No Data Available*

Viscosity <=50 centipoise

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: Strong oxidizing agents

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not Determined

CHEMICAL FATE INFORMATION

Not Determined

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Incinerate in a permitted hazardous waste incinerator. As a disposal alternative, dispose of waste product in a permitted hazardous waste facility.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14:TRANSPORT INFORMATION

ID Number	UPC	ID Number	UPC
70-0707-9584-7	00-48011-23357-9	70-0707-9593-8	00-48011-23366-1
70-0708-3892-8	00-48011-23915-1	70-0708-4007-2	00-48011-23357-9
70-0709-8998-6		70-0710-0958-6	00-48011-23915-1

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

311/312 Hazard Categories:
Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

CHEMICAL INVENTORIES

TSCA: All components used in the manufacture of this material are in compliance with the U.S. TSCA inventory. One or more of the components in this material is not listed on the TSCA inventory, but is approved for specific commercial use(s) under a U.S. EPA low volume exemption (up to 1000 kg/yr).

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification
Health: 3 **Flammability:** 2 **Reactivity:** 0 **Special Hazards:** None

National Fire Protection Agency Hazard Codes are designed for use by firefighters, sheriffs, or other emergency response teams who are concerned with the hazards of burning or exploding materials. These NFPA codes are not intended to address the hazards of this product other than in a fire situation.

HMIS Hazard Classification
Health: 3 **Flammability:** 2 **Reactivity:** 0 **Protection:** X - See PPE section.
HMIS codes are intended for use in everyday workplace settings to provide a rapid indication of the occupational hazards associated with chemicals used in the workplace.

Revision Changes: Not Applicable

DISCLAIMER: The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the MSDS available directly from 3M.

3M MSDSs are available at www.3M.com