



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ Heavy Duty Glass Cleaner Concentrate (Product No. 20, Twist 'n Fill™ System)

Product Identification Numbers

61-0000-6344-8, 61-0000-6381-0, 70-0715-9305-0, 70-0715-9306-8, 70-0716-8355-4, 70-0716-8356-2

1.2. Recommended use and restrictions on use

Recommended use

Non-streaking, heavy-duty cleaner for windows, glass, mirrors and other mirrored surfaces., Hard Surface Cleaner

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Commercial Solutions Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

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

SECTION 2: Hazard identification

2.1. Hazard classification

Flammable Liquid: Category 3.

Serious Eye Damage/Irritation: Category 1.

Skin Corrosion/Irritation: Category 2.

Specific Target Organ Toxicity (single exposure): Category 3.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Corrosion | Exclamation mark |

Pictograms



Hazard Statements

Flammable liquid and vapor.

Causes serious eye damage.

Causes skin irritation.

May cause drowsiness or dizziness.

Precautionary Statements

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Keep container tightly closed.

Use explosion-proof electrical/ventilating/lighting equipment.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves and eye/face protection.

Wash thoroughly after handling.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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 or doctor/physician.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

Call a POISON CENTER or doctor/physician if you feel unwell.

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Storage:

Store in a well-ventilated place. Keep container tightly closed.

Keep cool.

Store locked up.

Disposal:

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

2.3. Hazards not otherwise classified

None.

62% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
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1-PROPOXY-2-PROPANOL	1569-01-3	30 - 60 Trade Secret *
WATER	7732-18-5	30 - 60 Trade Secret *
ALKYL ETHOXY CARBOXYLIC ACID	220622-96-8	1 - 5 Trade Secret *
ETHANOLAMINE	141-43-5	0.5 - 1.5 Trade Secret *
ALCOHOLS, C10-16, ETHOXYLATED	68002-97-1	< 1 Trade Secret *
Fragrance added	Mixture	< 1 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide
Carbon dioxide

Condition

During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Contain spill. Cover spill area with a fire-extinguishing foam designed for use on solvents, such as alcohols and acetone, that can dissolve in water. An AR - AFFF type foam is recommended. 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. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with water. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

This product is not intended to be used without prior dilution as specified on the product label. Grounding or safety shoes with electrostatic dissipating soles (ESD) are not required with a chemical dispensing system. Keep out of reach of children. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Wear low static or properly grounded shoes. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
ETHANOLAMINE	141-43-5	ACGIH	TWA:3 ppm;STEL:6 ppm	
ETHANOLAMINE	141-43-5	OSHA	TWA:6 mg/m3(3 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

NOTE: When used with a chemical dispensing system as directed, special ventilation is not required. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Use explosion-proof ventilation equipment.

8.2.2. Personal protective equipment (PPE)**Eye/face protection**

NOTE: When used with a chemical dispensing system as directed, eye contact with the concentrate is not expected to occur. If the product is not used with a chemical dispensing system or if there is an accidental release, wear protective eye/face protection. Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Full Face Shield
Indirect Vented Goggles

Skin/hand protection

NOTE: When used with a chemical dispensing system as directed, skin contact with the concentrate is not expected to occur. If product is not used with a chemical dispensing system or if there is an accidental release:

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

Gloves made from the following material(s) are recommended: Butyl Rubber
Polymer laminate

Respiratory protection

NOTE: When used with a chemical dispensing system as directed, respiratory protection is not required.

If product is not used with a chemical dispensing system or if there is an accidental release:

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

General Physical Form:	Liquid
Odor, Color, Grade:	Clear dark blue-violet color with floral fragrance
Odor threshold	<i>No Data Available</i>
pH	9.3 - 10.5
Melting point	<i>Not Applicable</i>
Boiling Point	275 °F [<i>Details: Approximately</i>]
Flash Point	118 °F [<i>Test Method: Closed Cup</i>]
Evaporation rate	<i>No Data Available</i>
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	<i>No Data Available</i>

Flammable Limits(UEL)	No Data Available
Vapor Pressure	No Data Available
Vapor Density	No Data Available
Density	7.93 lb/gal
Specific Gravity	0.942 - 0.953 [Ref Std: WATER=1]
Solubility in Water	Complete
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	No Data Available
Viscosity	< 3
Hazardous Air Pollutants	Not Applicable
Volatile Organic Compounds	60 - 65 % weight
Percent volatile	95 - 100
VOC Less H2O & Exempt Solvents	860 - 890 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Sparks and/or flames

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:

May be harmful in contact with skin.

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

Eye Contact:

Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion:

May be harmful if swallowed.

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

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE 2,000 - 5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE > 50 mg/l
Overall product	Ingestion		No data available; calculated ATE 2,000 - 5,000 mg/kg
1-PROPOXY-2-PROPANOL	Dermal	Rabbit	LD50 2,805 mg/kg
1-PROPOXY-2-PROPANOL	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 11.8 mg/l
1-PROPOXY-2-PROPANOL	Ingestion	Rat	LD50 2,500 mg/kg
ALKYL ETHOXY CARBOXYLIC ACID	Dermal	Rabbit	LD50 > 2,000 mg/kg
ALKYL ETHOXY CARBOXYLIC ACID	Ingestion	Rat	LD50 > 2,000 mg/kg
ETHANOLAMINE	Inhalation-Vapor	official classification	LC50 estimated to be 10 - 20 mg/l
ETHANOLAMINE	Dermal	Rabbit	LD50 1,000 mg/kg
ETHANOLAMINE	Ingestion	Rat	LD50 1,720 mg/kg
ALCOHOLS, C10-16, ETHOXYLATED	Ingestion	Rat	LD50 1,350 mg/kg
Fragrance added	Dermal	Rabbit	LD50 > 5,010 mg/kg
Fragrance added	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.34 mg/l
Fragrance added	Ingestion	Rat	LD50 > 5,010 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
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1-PROPOXY-2-PROPANOL	Rabbit	Minimal irritation
ALKYL ETHOXY CARBOXYLIC ACID	Rabbit	Irritant
ETHANOLAMINE	Rabbit	Corrosive
ALCOHOLS, C10-16, ETHOXYLATED	Rabbit	Mild irritant
Fragrance added	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Overall product	In vitro data	Corrosive
1-PROPOXY-2-PROPANOL	Rabbit	Severe irritant
ALKYL ETHOXY CARBOXYLIC ACID	Rabbit	Corrosive
ETHANOLAMINE	Rabbit	Corrosive
ALCOHOLS, C10-16, ETHOXYLATED	Rabbit	Corrosive
Fragrance added	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
ETHANOLAMINE	Guinea pig	Some positive data exist, but the data are not sufficient for classification
ALCOHOLS, C10-16, ETHOXYLATED	Human	Some positive data exist, but the data are not sufficient for classification
Fragrance added	Guinea pig	Not sensitizing

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
1-PROPOXY-2-PROPANOL	In Vitro	Not mutagenic
ETHANOLAMINE	In Vitro	Not mutagenic
ETHANOLAMINE	In vivo	Not mutagenic
Fragrance added	In Vitro	Not mutagenic
Fragrance added	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Fragrance added	Ingestion	Multiple animal species	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
1-PROPOXY-2-PROPANOL	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 3.6 mg/l	during organogenesis
ETHANOLAMINE	Dermal	Not toxic to development	Rat	NOAEL 225 mg/kg/day	during organogenesis
ETHANOLAMINE	Ingestion	Not toxic to development	Rat	NOAEL 616 mg/kg/day	during organogenesis
Fragrance added	Ingestion	Not toxic to development	Rat	NOAEL 5,000 mg/kg/day	during organogenesis

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
1-PROPOXY-2-PROPANOL	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	LOAEL 10.8 mg/l	6 hours
1-PROPOXY-2-PROPANOL	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
1-PROPOXY-2-PROPANOL	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 1,770 mg/kg	not applicable
ALKYL ETHOXY CARBOXYLIC ACID	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
ETHANOLAMINE	Inhalation	respiratory irritation	May cause respiratory irritation	Human and animal	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
1-PROPOXY-2-PROPANOL	Inhalation	liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 9.5 mg/l	11 days
ETHANOLAMINE	Inhalation	liver kidney and/or bladder respiratory system	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 0.656 mg/l	5 weeks
ETHANOLAMINE	Ingestion	hematopoietic system liver kidney and/or bladder respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	
Fragrance added	Ingestion	respiratory system heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 470 mg/kg/day	105 weeks
Fragrance added	Ingestion	endocrine system liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 3,040 mg/kg/day	105 weeks
Fragrance added	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 115 mg/kg/day	105 weeks
Fragrance added	Ingestion	skin bone, teeth, nails, and/or hair hematopoietic system immune system nervous system vascular system	All data are negative	Rat	NOAEL 3,040 mg/kg/day	105 weeks

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

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

Incinerate in a permitted waste incineration facility. Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

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

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS 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 Instability: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 3 Flammability: 2 Physical Hazard: 0 Personal Protection: X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

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