



Revision Number: 010.0

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name:	LOCTITE HYDX-20 known as HYDRO-X/20 WTRSOL FLUX 1GA BOT	IDH number:	479629
Product type:	Cleaner	Item number:	M00274
Restriction of Use:	None identified	Region:	United States
Company address:	Contact information:		
Henkel Electronic Materials LLC	Telephone: +1 (888) 943-6535		
14000 Jamboree Road	MEDICAL EMERGENCY Phone: Poison Control Center		
Irvine, CA 92606	1-877-671-4608 (toll free) or 1-303-592-1711		
	TRANSPORT EMERGENCY Phone: CHEMTREC		
	1-800-424-9300 (toll free) or 1-703-527-3887		
	Internet: www.henkel.com/electronics		

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER: HIGHLY FLAMMABLE LIQUID AND VAPOR.
 MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS.
 CAUSES SKIN IRRITATION.
 MAY CAUSE AN ALLERGIC SKIN REACTION.
 CAUSES SERIOUS EYE DAMAGE.
 MAY CAUSE DROWSINESS OR DIZZINESS.

HAZARD CLASS	HAZARD CATEGORY
FLAMMABLE LIQUID	2
SKIN IRRITATION	2
SERIOUS EYE DAMAGE	1
SKIN SENSITIZATION	1
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	3
ASPIRATION HAZARD	1

PICTOGRAM(S)



Precautionary Statements

Prevention: Keep away from heat, sparks, open flames, hot surfaces - no smoking. Keep container tightly closed. No release into water. Use explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing vapors, mist, or spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves, eye protection, and face protection.

Response: IF SWALLOWED: Immediately call a physician or poison control center. If on skin (or hair): Take off immediately all contaminated clothing. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. Immediately call a poison control center or physician. Do NOT induce vomiting. If skin irritation or rash occurs: Get medical attention. Take off contaminated clothing. In case of fire: Use foam, dry chemical or carbon dioxide to

Storage: extinguish.
Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place.
Keep cool. Store locked up.

Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
2-Propanol	67-63-0	30 - 60
Methanol	67-56-1	30 - 60
Glycerol	56-81-5	10 - 30
Carboxylic acid	Proprietary	1 - 5
Ammonium chloride	12125-02-9	1 - 5

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation: Move to fresh air. Administer oxygen or artificial respiration as needed. Get medical attention.

Skin contact: Remove contaminated clothing and footwear. Immediately flush skin with plenty of water (using soap, if available). If symptoms develop and persist, get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye contact: In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

Ingestion: Induce vomiting immediately and call a physician.

Symptoms: See Section 11.

5. FIRE FIGHTING MEASURES

Extinguishing media: Water spray (fog), foam, dry chemical or carbon dioxide.

Special firefighting procedures: Wear a self-contained breathing apparatus with a full face piece operated in pressure-demand or other positive pressure mode.

Unusual fire or explosion hazards: Closed containers may rupture (due to build up of pressure) when exposed to extreme heat. In case of fire, keep containers cool with water spray.

Hazardous combustion products: Oxides of carbon.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Do not allow product to enter sewer or waterways.

Clean-up methods:

Ventilate area. Remove all sources of ignition. Evacuate personnel to safe areas. Wear suitable protective clothing, gloves and eye/face protection. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Spilled liquid is combustible and can be ignited by heat, flames, sparks, or other sources of ignition. Store in a partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Handling:

Use only with adequate ventilation. Keep away from heat, spark and flame. Wear suitable protective clothing, gloves and eye/face protection. Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists of this product. Wash thoroughly after handling.

Storage:

Store away from ignition sources. Keep away from heat, spark and flame. Store in original container until ready to use.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
2-Propanol	200 ppm TWA 400 ppm STEL	400 ppm (980 mg/m ³) PEL	None	None
Methanol	200 ppm TWA (SKIN) 250 ppm STEL	200 ppm (260 mg/m ³) PEL	None	None
Glycerol	None	5 mg/m ³ PEL Respirable fraction. 15 mg/m ³ PEL Total dust.	None	None
Carboxylic acid	None	None	None	None
Ammonium chloride	20 mg/m ³ STEL Fume. 10 mg/m ³ TWA Fume.	None	None	None

Engineering controls:

Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Ensure adequate ventilation, especially in confined areas. In case of insufficient ventilation, wear suitable respiratory equipment.

Respiratory protection:

Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

Eye/face protection:

Safety goggles or safety glasses with side shields.

Skin protection:

Chemical resistant, impermeable gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Colorless
Odor:	Alcoholic
Odor threshold:	Not available.
pH:	Not applicable
Vapor pressure:	44 mm hg (25 °C (77°F))
Boiling point/range:	82 °C (179.6 °F)
Melting point/ range:	Not determined
Specific gravity:	0.79
Vapor density:	Heavier than air.

Flash point:	12 °C (53.6 °F)
Flammable/Explosive limits - lower:	2 %
Flammable/Explosive limits - upper:	12.7 %
Autoignition temperature:	399 °C (750.2 °F)
Evaporation rate:	Not available.
Solubility in water:	Completely soluble
Partition coefficient (n-octanol/water):	Not available.
VOC content:	100 %; 790 g/l
Viscosity:	Not available.
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous reactions:	Will not occur.
Hazardous decomposition products:	Oxides of carbon.
Incompatible materials:	Strong oxidizing agents. Acids.
Reactivity:	Not available.
Conditions to avoid:	Keep away from open flames, hot surfaces and sources of ignition.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure:	Skin, Inhalation, Eyes
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Potential Health Effects/Symptoms

Inhalation: Inhalation of processing fumes may be harmful. Vapor overexposure may cause drowsiness. Dizziness.
Skin contact: Causes skin irritation. May cause allergic skin reaction.
Eye contact: Causes serious eye damage.
Ingestion: This product may be fatal if it is swallowed.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
2-Propanol	Oral LD50 (RAT) = 5,045 mg/kg Oral LD50 (RABBIT) = 6,410 mg/kg Oral LD50 (RAT) = 4.7 g/kg Oral LD50 (RABBIT) = 8.0 g/kg Oral LD50 (RABBIT) = 5.03 g/kg Dermal LD50 (RABBIT) = 12,800 mg/kg	Allergen, Blood, Brain, Central nervous system, Irritant, Kidney, Liver, Spleen
Methanol	Oral LD50 (RAT) = 5,628 mg/kg Oral LD50 (RABBIT) = 14.4 g/kg Dermal LD50 (RABBIT) = 15,800 mg/kg Inhalation LC50 (RAT, 6 h) = 87.5 mg/l Inhalation LC50 (RAT, 4 h) = 64000 ppm	Eyes, Heart, Irritant, Kidney, Liver, Metabolic, Nervous System, Reproductive
Glycerol	None	Blood, Irritant, Kidney, Nuisance dust
Carboxylic acid	Oral LD50 (RAT) = 6,730 mg/kg	Allergen, Corrosive, Eyes, Irritant
Ammonium chloride	Oral LD50 (RAT) = 1,650 mg/kg	Central nervous system, Eyes, Irritant, Metabolic

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
2-Propanol	No	No	No
Methanol	No	No	No
Glycerol	No	No	No
Carboxylic acid	No	No	No
Ammonium chloride	No	No	No

12. ECOLOGICAL INFORMATION

Ecological information: No specific studies have been conducted by Henkel on the ecotoxicity or environmental fate of this material; however, commonly available data on the material indicate that uncontrolled releases to soil, ground water, or surface waters could entail acute and/or chronic ecological effects, depending on the quantity and concentration of such releases. Releases of volatile components to the atmosphere are not believed to entail significant ecological consequences provided such releases are within the exposure levels set forth in this document. Accordingly, all appropriate measures should be taken to avoid uncontrolled releases to the environment, and any spills or other uncontrolled releases which may occur should be contained and cleaned up immediately in accordance with Section 6.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.
Hazardous waste number: D001: Ignitable.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Alcohols, flammable, toxic n.o.s. (Methanol, Isopropanol)
Hazard class or division: 3 (6.1)
Identification number: UN 1986
Packing group: II

International Air Transportation (ICAO/IATA)

Proper shipping name: Alcohols, flammable, toxic, n.o.s. (Methanol, Isopropanol)
Hazard class or division: 3 (6.1)
Identification number: UN 1986
Packing group: II

Water Transportation (IMO/IMDG)

Proper shipping name: ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (Methanol, Isopropanol)
Hazard class or division: 3 (6.1)
Identification number: UN 1986
Packing group: II

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification: None above reporting de minimis
CERCLA/SARA Section 302 EHS: None above reporting de minimis
CERCLA/SARA Section 311/312: Immediate Health, Fire
CERCLA/SARA Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Methanol (CAS# 67-56-1). Ammonium chloride (CAS# 12125-02-9).
CERCLA Reportable quantity: Methanol (CAS# 67-56-1) 5,000 lbs. (2,270 kg)
California Proposition 65: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada Regulatory Information

CEPA DSL/NDL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format.

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