

SAFETY DATA SHEET

1. Identification

Product identifier	DYNASOLVE CU-5		
Other means of identification			
Product code	J004		
Recommended use	Polyurethane Remover		
Recommended restrictions	None known.		
Manufacturer/Importer/Supplier/Distributor information			
Company name	Dynaloy, a subsidiary of Eastman Chemical Company		
Address	6445 Olivia Lane Indianapolis, IN 46226 US US		
Telephone	317-788-5694		
E-mail	DynaloyInfo@eastman.com		
Contact person	Dynaloy Info		
Emergency phone number	Chemtrec	1-800-424-9300	
	International	+1 703-527-3887 ccn 7178	

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 4
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 3
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1
	Reproductive toxicity	Category 1B
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 2 (Kidney, Central Nervous System)

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Combustible liquid. Toxic if inhaled. Harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause respiratory irritation. May cause drowsiness or dizziness. May damage fertility or the unborn child. May cause damage to organs (Kidney, Central Nervous System) through prolonged or repeated exposure.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from flames and hot surfaces-No smoking. Do not breathe mist or vapor. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling.

Response If swallowed: Immediately call a poison center/doctor. Rinse mouth. If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. 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/doctor. In case of fire: Use appropriate media 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 local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
1-Methyl-2-pyrrolidinone	872-50-4	40 - 70
Butyrolactone	96-48-0	10 - 30
2-Phenoxyethanol	122-99-6	10 - 20
Branched-nonylphenol ethoxylate	68412-54-4	2.5 - 10
Ethyl-3-ethoxy propionate	763-69-9	2.5 - 10

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTER or doctor/physician.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. Skin irritation. May cause redness and pain. Edema. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Combustible liquid.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

Environmental precautions

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from open flames, hot surfaces and sources of ignition. When using do not smoke. Do not breathe mist or vapor. Do not get this material in contact with eyes. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
1-Methyl-2-pyrrolidinone (CAS 872-50-4)	TWA	40 mg/m ³ 10 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
1-Methyl-2-pyrrolidinone (CAS 872-50-4)	100 mg/l	5-Hydroxy-N-methyl-2-pyrrolidinone	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US WEEL Guides: Skin designation

1-Methyl-2-pyrrolidinone (CAS 872-50-4)

Can be absorbed through the skin.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses. If splash potential exists, wear full face shield or chemical goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory equipment. Chemical respirator with organic vapor cartridge and full facepiece.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Clear.
Physical state	Liquid.
Form	Liquid.
Color	Colorless to straw.
Odor	Not available.
Odor threshold	Not available.
pH	Not Applicable
Melting point/freezing point	Not available.
Initial boiling point and boiling range	410 °F (210 °C) (estimated)
Flash point	197.6 °F (92.0 °C) Pensky-Martens Closed Cup
Evaporation rate	Slower than water.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	0.48 hPa (estimated)
Vapor density	Not available.
Relative density	1.065
Solubility(ies)	
Solubility (water)	Complete
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Alkaline metals. Peroxides.
Hazardous decomposition products	Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Toxic if inhaled. May cause damage to organs through prolonged or repeated exposure by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye damage.
Ingestion	Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Headache. May cause drowsiness and dizziness. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. Skin irritation. May cause redness and pain. Edema.

Information on toxicological effects

Acute toxicity Toxic if inhaled. Harmful if swallowed. Narcotic effects. May cause respiratory irritation.

Components	Species	Test Results
1-Methyl-2-pyrrolidinone (CAS 872-50-4)		
Acute		
Dermal		
LD50	Rabbit	8000 mg/kg
Inhalation		
LC50	Rat	> 5.1 mg/l
Oral		
LD50	Rat	3914 mg/kg
2-Phenoxyethanol (CAS 122-99-6)		
Acute		
Dermal		
LD50	Rabbit	> 2214 mg/kg, 24 Hours
Inhalation		
LC50	Rat	> 1000 mg/m3
Oral		
LD50	Rat	1439 mg/kg
Branched-nonylphenol ethoxylate (CAS 68412-54-4)		
Acute		
Dermal		
LD50		2830 mg/kg
Butyrolactone (CAS 96-48-0)		
Acute		
Inhalation		
LC50	Rat	> 5.1 mg/l, 4 Hours
Oral		
LD50	Rat	1582 mg/kg
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
Respiratory sensitization	Due to lack of data the classification is not possible.	
Skin sensitization	Due to lack of data the classification is not possible.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Butyrolactone (CAS 96-48-0)	3 Not classifiable as to carcinogenicity to humans.	

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	May damage fertility or the unborn child.
Specific target organ toxicity - single exposure	May cause respiratory irritation. May cause drowsiness and dizziness.
Specific target organ toxicity - repeated exposure	May cause damage to organs (Kidney, Central Nervous System) through prolonged or repeated exposure.
Aspiration hazard	Not an aspiration hazard.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
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Components		Species	Test Results
1-Methyl-2-pyrrolidinone (CAS 872-50-4)			
Aquatic			
Algae	EC50	Scenedesmus subspicatus	> 500 mg/l, 72 hours
Crustacea	EC50	Daphnia magna	> 1000 mg/l, 24 hours
Fish	LC50	Oncorhynchus mykiss	> 500 mg/l, 96 hours
2-Phenoxyethanol (CAS 122-99-6)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	337 - 352 mg/l, 96 hours

Persistence and degradability	No data is available on the degradability of this product.
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Bioaccumulative potential**Partition coefficient n-octanol / water (log Kow)**

1-Methyl-2-pyrrolidinone (CAS 872-50-4)	-0.54
2-Phenoxyethanol (CAS 122-99-6)	1.16
Butyrolactone (CAS 96-48-0)	-0.64

Mobility in soil	No data available.
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Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.
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13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information**DOT**

UN number	NA1993
UN proper shipping name	Combustible Liquids, n.o.s. (Ethyl-3-ethoxy propionate)
Transport hazard class(es)	
Class	Combustible Liquid
Subsidiary risk	-
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB3, T1, T4, TP1
Packaging exceptions	150
Packaging non bulk	203
Packaging bulk	241

This material is not regulated under 49 CFR if in a container of 119 gallon capacity or less.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

2-Phenoxyethanol (CAS 122-99-6) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
1-Methyl-2-pyrrolidinone	872-50-4	40 - 70
2-Phenoxyethanol	122-99-6	10 - 20

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

2-Phenoxyethanol (CAS 122-99-6)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Butyrolactone (CAS 96-48-0) 70 %WV

DEA Exempt Chemical Mixtures Code Number

Butyrolactone (CAS 96-48-0) 2011

US state regulations

US. Massachusetts RTK - Substance List

1-Methyl-2-pyrrolidinone (CAS 872-50-4)

US. New Jersey Worker and Community Right-to-Know Act

1-Methyl-2-pyrrolidinone (CAS 872-50-4)

2-Phenoxyethanol (CAS 122-99-6)

US. Pennsylvania Worker and Community Right-to-Know Law

1-Methyl-2-pyrrolidinone (CAS 872-50-4)

2-Phenoxyethanol (CAS 122-99-6)

US. Rhode Island RTK

1-Methyl-2-pyrrolidinone (CAS 872-50-4)

2-Phenoxyethanol (CAS 122-99-6)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

1-Methyl-2-pyrrolidinone (CAS 872-50-4)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	28-May-2015
Revision date	-
Version #	01
HMIS® ratings	Health: 3* Flammability: 2 Physical hazard: 0

NFPA ratings**Disclaimer**

Dynaloy, a subsidiary of Eastman Chemical Company cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.