

Safety Data Sheet

Version 2.0

Revision Date 11/03/2023

SDS Number 300000078634

Print Date 11/15/2023

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Uresolve 411

Product Use Description : Polymer Remover

Manufacturer/Importer/Distributor : Versum Materials US, LLC
8555 South River Parkway
Tempe, AZ 85284-2601
Exporter EIN No. 47-5632014
www.emdgroup.com/electronics

Telephone : 800 837 2724

Emergency telephone number (24h) : 1-800-424-9300
(+1) 703-741-5970 (CHEMTREC)

2. HAZARDS IDENTIFICATION

GHS classification

Flammable liquids - Category 2
Acute toxicity - Oral Category 3
Acute toxicity - Dermal Category 3
Acute toxicity - Inhalation - vapor Category 3
Skin Corrosion/Irritation - Category 1B
Serious Eye Damage/Eye Irritation - Category 1
Toxic to reproduction - Category 1B
Specific Target Organ Toxicity - Single Exposure - Category 1
Specific Target Organ Toxicity - Single Exposure - Category 3

GHS label elements

Hazard pictograms/symbols



Signal Word: Danger

Hazard Statements:

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H225:Highly flammable liquid and vapor.
H301+H311+H331:Toxic if swallowed, in contact with skin or if inhaled.
H314:Causes severe skin burns and eye damage.
H360:May damage fertility or the unborn child.
H370:Causes damage to organs.
H335:May cause respiratory irritation.

Precautionary Statements:

Prevention : P201:Obtain special instructions before use.
P202:Do not handle until all safety precautions have been read and understood.
P210:Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233:Keep container tightly closed.
P240:Ground and bond container and receiving equipment.
P241:Use explosion-proof electrical, ventilating and lighting equipment.
P242:Use non-sparking tools.
P243:Take action to prevent static discharges.
P260:Do not breathe dust/fume/gas/mist/vapors/spray.
P264:Wash face, hands and any exposed skin thoroughly after handling.
P270:Do not eat, drink or smoke when using this product.
P271:Use only outdoors or in a well-ventilated area.
P280:Wear protective gloves/protective clothing/eye protection/face protection.
P281:Use personal protective equipment as required.

Response : P301+P330+P331 :IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 :IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+P340 :IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 :IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P307+P311 :IF exposed: Call a POISON CENTER or doctor/ physician.
P308+P313 :IF exposed or concerned: Get medical advice/attention.
P310 :Immediately call a POISON CENTER/doctor.
P312 :Call a POISON CENTER or doctor/ physician if you feel unwell.
P321 :Specific treatment (see supplemental first aid instructions on this label).
P363 :Wash contaminated clothing before reuse.
P370+P378 :In case of fire, use recommended extinguishing media for extinction.

Storage : P403+P233:Store in a well-ventilated place. Keep container tightly closed.
P405:Store locked up.

Disposal : P501:Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

3.89 % of mixture consists of ingredients of unknown acute toxicity
29.33 % of mixture consists of ingredients of unknown acute toxicity
100 % of mixture consists of ingredients of unknown acute toxicity

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Concentration (Weight)
Methyl alcohol	67-56-1	60% - 80 %
Methyl-2-pyrrolidinone, 1-	872-50-4	10% - 30 %
Potassium Hydroxide	1310-58-3	1% - 5 %

Concentration is nominal. For the exact product composition, please refer to technical specifications.

4. FIRST AID MEASURES

- General advice : Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.
- Eye contact : Hold eyelids apart, initiate and maintain gentle and continuous irrigation care is not promptly available, continue to irrigate for one hour.
- Skin contact : Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Flush immediately with copious amounts of water. Initiate and maintain continuous irrigation until the patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour. Cover wound with sterile dressing.
- Ingestion : Medical care must emphasize the control of acidosis and the use of intravenous bicarbonate has been lifesaving. Evidence is good that treatment of methanol absorption is enhanced through the administration of ethanol, which should be given to produce a blood level of at least 0.1%. Ethanol diminishes the production of toxic metabolites of methanol. Blood methanol level of 50 mg/100mL is an indication for hemodialysis, which has improved the prognosis of methanol intoxication. Methanol is often confused with beverage alcohol (ethylalcohol). Care must cause of methanol poisoning. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Prevent aspiration of vomit. Turn victim's head to the side.
- Inhalation : If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. If unconscious place in recovery position and seek medical advice. Move to fresh air.
- Inhalation : No data available.
- Immediate Medical Attention and Special Treatment
- Risks : In case of ingestion or massive inhalation, observe victim as an inpatient hours between exposure and acidosis and blindness.

5. FIRE-FIGHTING MEASURES

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Suitable extinguishing media	: Alcohol-resistant foam. Carbon dioxide (CO2). Dry chemical. Dry sand. Limestone powder.
Specific hazards	: Incomplete combustion may form carbon monoxide. Flash back possible over considerable distance. Fire or intense heat may cause violent rupture of packages. Burning produces noxious and toxic fumes. May form explosive mixtures in air. Downwind personnel must be evacuated.
Special protective equipment for fire-fighters	: Avoid contact with the skin. A face shield should be worn. Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.
Further information	: Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations., Do not allow run-off from firefighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures	: Remove all sources of ignition. Use self-contained breathing apparatus and chemically protective clothing. Evacuate personnel to safe areas.
Environmental precautions	: Local authorities should be advised if significant spillages cannot be contained. Prevent spilled product from entering streams or drinking water supplies. Shut off or remove all ignition sources. Construct a dike to prevent spreading.
Methods for cleaning up	: Absorb with inert absorbent materials such as: Dry sand. Vermiculite. Activated charcoal. Approach suspected leak areas with caution. Call Emergency Response number for advice. Place in appropriate chemical waste container.
Additional advice	: If possible, stop flow of product.

7. HANDLING AND STORAGE

Handling

Avoid contact with skin and eyes. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. See "Flammable and Combustible Liquid Code" NFPA No. 30, National Fire Protection Association, Boston, MA. Take precautionary measures against static discharges. Keep away from heat, sparks and open flame. Use personal protective equipment. When using, do not eat, drink or smoke.

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from heat and sources of ignition. Keep away from oxidizers.

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Technical measures/Precautions

Keep away from open flames, hot surfaces and sources of ignition.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures

Provide readily accessible eye wash stations and safety showers.

Handle product only in closed system or provide appropriate exhaust ventilation at machinery.

Personal protective equipment

Respiratory protection : Wear appropriate respirator when ventilation is inadequate.

Hand protection : Neoprene gloves.
Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eye protection : Full face shield with goggles underneath.

Skin and body protection : Impervious clothing.
Rubber or plastic boots.
Slicker Suit.

Environmental exposure controls : Local authorities should be advised if significant spillages cannot be contained.
Prevent spilled product from entering streams or drinking water supplies. Shut off or remove all ignition sources.

Special instructions for protection and hygiene : Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Wash hands at the end of each workshift and before eating, smoking or using the toilet. Provide readily accessible eye wash stations and safety showers.

Exposure limit(s)

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Methyl alcohol	Time Weighted Average (TWA): ACGIH	200 ppm	-
Methyl alcohol	Short Term Exposure Limit (STEL): ACGIH	250 ppm	-
Methyl alcohol	Short Term Exposure Limit (STEL): NIOSH	250 ppm	325 mg/m3
Methyl alcohol	Recommended exposure limit (REL): NIOSH	200 ppm	260 mg/m3
Methyl alcohol	Permissible exposure limit: OSHA Z1	200 ppm	260 mg/m3
Methyl-2-pyrrolidinone, 1-	Time Weighted Average (TWA): WEEL	10 ppm	40 mg/m3
Methyl-2-pyrrolidinone, 1-	Short Term Exposure Limit (STEL): WEEL	30 ppm	120 mg/m3
Methyl-2-pyrrolidinone, 1-	Time Weighted Average (TWA): WEEL	15 ppm	60 mg/m3
Potassium Hydroxide	Ceiling Limit Value: ACGIH	-	2 mg/m3
Potassium Hydroxide	Ceiling Limit Value and Time Period (if specified): NIOSH	-	2 mg/m3

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Liquid. Blue
Odour	: Fishy.
Odor threshold	: No data available.
pH	: > 11.5
Melting point/range	: No data available.
Boiling point/boiling range	: 149 °F (65 °C)
Flash point	: 64 °F (18 °C) Pensky-Martens Closed Cup
Evaporation rate	: No data available.
Flammability (solid, gas)	: Refer to product classification in Section 2
Upper/lower explosion/flammability limit	: No data available.
Vapour pressure	: 98.50 mmHg
Water solubility	: Miscible with water.
Relative vapor density	: No data available.
Relative density	: 0.87 (water = 1)
Partition coefficient: n-octanol/water	: No data available.
Auto-ignition temperature	: No data available.

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Decomposition temperature : No data available.
Viscosity : No data available.
Density : No data available.
Density : 54.312 lb/ft³ (0.87 g/cm³)

10. STABILITY AND REACTIVITY

Chemical Stability : Stable under normal conditions.
Conditions to avoid : Heat, flames and sparks.
Materials to avoid : Reactive metals (e.g. sodium, calcium, zinc etc.).
Materials reactive with hydroxyl compounds.
Acids.
Oxidizing agents.
Hazardous decomposition products : Carbon monoxide.
Carbon dioxide (CO₂).
Aldehydes
Flammable hydrocarbon fragments.
Nitrogen oxides (NO_x).
Possibility of hazardous Reactions/Reactivity : No data available.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Likely routes of exposure

Effects on Eye : May cause blindness. May cause chemical eye burns.
Effects on Skin : May be toxic in contact with skin Causes severe skin burns.
Inhalation Effects : Toxic if inhaled. Irritating to respiratory system.
Ingestion Effects : Toxic if swallowed. May cause burns of the gastrointestinal tract if swallowed.
Symptoms : No data available.

Acute toxicity

Acute Oral Toxicity : ATEmix : 138.03 mg/kg
Inhalation : ATEmix (4 h) : 3 mg/l

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Acute Dermal Toxicity : ATEmix : 424.52 mg/kg
Skin corrosion/irritation : Causes skin burns.
Serious eye damage/eye irritation : Causes serious eye damage.
Sensitization. : No data available.

Chronic toxicity or effects from long term exposures

Carcinogenicity : No data available.
Reproductive toxicity : May damage fertility or the unborn child.
Germ cell mutagenicity : No data is available on the product itself.
Specific target organ systemic toxicity (single exposure) : May cause respiratory irritation., Causes damage to organs.
Specific target organ systemic toxicity (repeated exposure) : No data available.
Aspiration hazard : No data available.

Delayed and Immediate Effects and Chronic Effects from Short and Long Term Exposure

This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater.

Methanol has relatively low acute toxicity in non-primates, but causes profound species-specific toxicity dependent on the extent to which formate accumulates. Sensitive primate species develop increased blood formate concentrations after methanol exposure, while rodents, rabbits and dogs do not. Exposure of non-primate lab animals to high methanol doses result in Central Nervous System (CNS) depression. Toxic effects in primates including metabolic acidosis and ocular toxicity, effects not normally found in lower animals.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Aquatic toxicity : No data is available on the product itself.

Toxicity to fish - Components

Methyl alcohol	LC50 (96 h) : 15,400 mg/l	Species : Bluegill sunfish (Lepomis macrochirus). Species : Fathead minnow (Pimephales promelas)
Methyl alcohol	NOEC (28 d) : 447 mg/l	

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Methyl-2-pyrrolidinone, 1-	LC50 (96 h) : 832 mg/l	Species : Bluegill (Lepomis macrochirus)
Methyl-2-pyrrolidinone, 1-	LC50 (96 h) : 4,000 mg/l	Species : Golden Orfe (Leuciscus lodus L, Golden variety)
Toxicity to daphnia - Components		
Methyl alcohol	EC 50 (96 h) : 18,260 mg/l	Species : Daphnia magna
Methyl alcohol	NOEC (21 d) : 208 mg/l	Species : Daphnia magna
Methyl-2-pyrrolidinone, 1-	EC 50 (48 h) : > 4,000 mg/l	Species : Daphnia
Methyl-2-pyrrolidinone, 1-	NOEC (21 d) : 12.5 mg/l	Species : Daphnia magna
Toxicity to algae - Components		
Methyl-2-pyrrolidinone, 1-	EC 50 (72 h) : 600.5 mg/l	Species : Algae (Pseudokirchneriella subcapitata)
Methyl-2-pyrrolidinone, 1-	NOEC (72 h) : 92.6 mg/l	Species : Algae (Pseudokirchneriella subcapitata)
Toxicity to other organisms	: No data available.	

Persistence and degradability

Biodegradability	: No data is available on the product itself.
Mobility	: No data available.
Bioaccumulation	: No data is available on the product itself.
Bioaccumulation - Components	
Methyl alcohol	The product is not bioaccumulating.
Methyl-2-pyrrolidinone, 1-	The product is not bioaccumulating.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products	: Contact supplier if guidance is required.
Contaminated packaging	: Dispose of container and unused contents in accordance with federal, state, and local requirements.

14. TRANSPORT INFORMATION

DOT

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UN/ID No. : UN2924
Proper shipping name : Flammable liquids, corrosive, n.o.s., (Methyl alcohol, Potassium Hydroxide)
Class or Division : 3
Packing group : II
Label(s) : 3 (8)
Marine Pollutant : No

IATA

UN/ID No. : UN2924
Proper shipping name : Flammable liquid, corrosive, n.o.s., (Methyl alcohol, Potassium Hydroxide)
Class or Division : 3
Packing group : II
Label(s) : 3 (8)
Marine Pollutant : No

IMDG

UN/ID No. : UN2924
Proper shipping name : FLAMMABLE LIQUID, CORROSIVE, N.O.S., (Methyl alcohol, Potassium Hydroxide)
Class or Division : 3
Packing group : II
Label(s) : 3 (8)
Marine Pollutant : No

TDG

UN/ID No. : UN2924
Proper shipping name : FLAMMABLE LIQUID, CORROSIVE, N.O.S., (Methyl alcohol, Potassium Hydroxide)
Class or Division : 3
Packing group : II
Label(s) : 3 (8)
Marine Pollutant : No

Further Information

The transportation information is not intended to convey all specific regulatory data relating to this material. For complete transportation information, contact customer service.

15. REGULATORY INFORMATION

Toxic Substance Control Act (TSCA) 12(b) Component(s):
Methyl-2-pyrrolidinone, 1-

CERCLA Reportable Quantity (RQ):

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EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification

Fire Hazard Immediate (Acute) Health Hazards Delayed (Chronic) Health Hazard

Flammable (gases, aerosols, liquids, or solids) Acute toxicity (any route of exposure) Skin Corrosion or Irritation
Serious eye damage or eye irritation Reproductive toxicity Specific target organ toxicity (single or repeated exposure)
Hazards Not Otherwise Classified (HNOC)

EPA SARA Title III Section 313 (40 CFR 372) Component(s) above 'de minimus' level

Methyl alcohol

Methyl-2-pyrrolidinone, 1-

EPA SARA Title III Section 313 (40 CFR 372) Component(s) above 'de minimus' level

None.

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

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

Methyl alcohol

Methyl-2-pyrrolidinone, 1-

16. OTHER INFORMATION

Prepared by : Product Compliance Department

Telephone : 800 837 2724

Preparation Date : 11/15/2023
