

**FoundryGeneral® Foundry Cleaner 2988 --**

---

**Section 1. Supplier Information**



**FoundryGeneral® c/o General Chemical Corp.**

12336 Emerson Drive  
www.foundrychem.com  
Brighton, MI 48116  
(248) 587-5600

**Emergency Telephone: 1-800-424-9300**

---

**Section 2. Hazardous Ingredients**

<u>Hazardous Component(s)</u>	<u>CAS #</u>	<u>PEL TWA</u>	<u>PEL Ceiling</u>	<u>TLV TWA</u>	<u>TLV STEL</u>	<u>MFG Limits</u>	<u>WGT %</u>
N-Methyl-2-pyrrolidone	872-50-4	N/E	N/E	N/E	N/E	N/E	45 - 75
Glycol ether DB acetate	124-17-4	N/E	N/E	N/E	N/E	N/E	15 - 45

N/A = Not Applicable; N/E = Not Established; \* = Mists; # = Skin; ' = Respirable Dust; " = Total Dust; ^ = Vapor; \*\* = Fumes; C = Ceiling Limit

---

All components of this product are listed on the Toxic Substances Control Act (TSCA) Inventory and the Canadian Domestic Substances List (DSL), or are exempt from the listing.

---

**Section 3. Hazards Identification**

**Primary Routes of Entry**

Inhalation: YES  
Skin: YES  
Ingestion: YES

**Hazardous Materials Information System (HMIS) Ratings**

Health:	* 2	0 = Minimal
Fire:	1	1 = Slight
Reactivity:	0	2 = Moderate
		3 = Serious
		4 = Severe
		* = Chronic Hazard

**Signs of Symptoms of Exposure:**

**INHALATION:** High vapor or mist concentrations may produce nose, throat, and respiratory irritation and may cause central nervous system (CNS) depression.

**SKIN:** Material is mildly irritating to the skin. Prolonged or repeated contact may cause defatting and drying of the skin, resulting in irritation and dermatitis.

**EYES:** Irritation and possible temporary corneal clouding.

**INGESTION:** Ingestion of large amounts causes gastric disturbances. Nausea and vomiting may result.

**Chemical Listed as Potential Carcinogens:**

NTP: NO

IARC: NO

OSHA: NO

Target Organs: Kidneys.

---

**FoundryGeneral® Foundry Cleaner 2988 --**

---

**Section 4. Emergency And First Aid Procedures**

**INHALATION:** If adverse effects such as dizziness, nausea, or irritation are noted, move person to fresh air. If not breathing, give artificial respiration. Get medical attention!

**SKIN:** Immediately wash skin with large amounts of soap and water. Remove contaminated clothing and shoes; wash before reuse. Get medical attention if irritation persists after washing.

**EYES:** Flush eyes immediately with water for at least 15 minutes. If irritation persists, call a physician.

**INGESTION:** If swallowed, dilute with water. Never give fluids if the victim is unconscious or having convulsions. Contact a physician immediately!

---

**Section 5. Fire Fighting Measures**

Flash Point: > 250 °F

Method Used: Tagliabue Closed Cup

Flammable Limits in Air % by Volume: LEL: 1.3 UEL: 9.5; for n-methyl-2-pyrrolidone

Extinguisher Media: Water fog, foam, dry chemical, or carbon dioxide.

Special Fire Fighting Procedures: Wear a self-contained breathing apparatus when fighting fire in an enclosed area.

Unusual Fire And Explosion Hazards: Low fire hazard when exposed to heat and flame. Product is not flammable or combustible.

---

**Section 6. Accidental Release Measures**

If material is spilled, evacuate the area, ventilate, and avoid breathing vapors. Dike area to contain spill. Clean up area by mopping or with absorbent material and place in closed containers for disposal. Avoid contamination of ground and surface waters. Do not flush to sewer. If spill occurs indoors, turn off air conditioning and/or heating systems, to prevent vapors from contaminating entire building.

CERCLA (Superfund) Reportable Quantity (in lbs None).

---

**Section 7. Handling and Storage**

**Handling:** Avoid contact with skin and eyes; wash thoroughly after handling. Avoid breathing vapor; use with adequate ventilation.

**Storage:** Store in a dry location at room temperature. Keep container closed and maintain all original markings and labels. Prevent water or moist air from entering storage containers. Do not use aluminum or galvanized steel for storage, pumping or transfer.

**Other:** Do not reuse container without recycling or reconditioning. Handle empty containers as if they were full.

---

**Section 8. Exposure Controls and Personal Protection**

**Respiratory Protection:** Use NIOSH / MSHA approved respirator where high vapor or mist concentrations are present.

**Local Exhaust:** Special ventilation is suggested at points where vapors can be expected to escape to the workplace air.

**Mechanical Exhaust:** Mechanical ventilation should be sufficient to maintain exposure levels below exposure limits.

**Protective Gloves:** Butyl rubber and FEP Teflon provide the best resistance.

**Eye Protection:** Safety glasses with side shields. Do NOT wear contact lenses. Chemical goggles and/or faceshield should be worn where splashing is possible.

**FoundryGeneral® Foundry Cleaner 2988 --**

Other Protection: Eye wash and safety shower should be readily available. Wear a chemical resistant apron and boots where splashing is possible.

Hygienic Practices: Protective equipment and clothing should be selected, used and maintained according to applicable standards and regulations. For further information, contact the clothing or equipment manufacturer. Do not eat, drink, or smoke while using this product. Wash hands prior to eating, drinking, smoking, or using restrooms. Cleanse skin thoroughly after contact, before breaks and meals, and at the end of the work shift.

**Section 9. Physical and Chemical Properties**

Boiling Point:	212 °F (initial)	Degree of water solubility:
Specific Gravity (H <sub>2</sub> O=1):	1.02-1.03	Negligible = Less than 0.1%
Vapor Pressure (mm Hg):	< 1	Slight = 0.1% - 1%
Vapor Density (air=1)	> 1	Moderate = 1% - 10%
Solubility in Water:	Complete.	Appreciable = More than 10%
Reactivity in Water:	None.	Complete = 100%
Weight per Gallon (lb/gal):	8.4 - 8.6 lbs/gal	
% Volatile by Volume:	100%	
% Solid by Weight:	0%	
Appearance and Odor:	Clear, colorless to light yellow liquid with a mild amine odor.	
Theoretical VOC: (>0.1 mm Hg @ 20 ° C)	7.6 - 7.8 lbs/gal	
Analytical VOC : (EPA method 24)	7.6 - 7.8 lbs/gal	
pH:	Not established.	

**Section 10. Stability and Reactivity**

Stability: Stable. Hazard Polymerization: Will not occur.

Conditions to Avoid: Keep from heat, sparks, or open flame.

Incompatibility (Materials to Avoid): Strong acids or oxidizing agents.

Hazardous Decomposition Products: Nitrogen oxides and oxides of carbon.

**Section 11. Toxicological Information**

N-methyl-2-pyrrolidone [CASRN 000872-50-4]

**ACUTE TOXICITY**

Oral LD50 (rat) = 4,990 mg/kg (moderately toxic) Eye Irritation (rabbit) - markedly irritating  
Oral LD50 (mouse) = 5,270 mg/kg (slightly toxic) Skin irritation (rabbit) - markedly irritating  
Inhalation LC50 (rat) > 5.1 mg/L, 4 hr (moderately toxic) Inhalation safety screen (rat), 8 hr - slightly irritating (No deaths)

Acute Overexposure Effects: Contact with the liquid can result in irritation. Skin contact should be avoided. Prolonged skin contact may result in redness and dermatitis. NMP is moderately toxic by all routes of exposure; however, due to its low vapor pressure, dermal exposure represents the primary hazard in most settings. Contact with the liquid results in moderate eye irritation and may cause temporary corneal clouding. Skin contact results in mild irritation; prolonged skin contact may cause redness and dermatitis. Inhalation of the vapors of NMP may result in respiratory

**FoundryGeneral® Foundry Cleaner 2988 --**

---

irritation. Accidental ingestion of the liquid causes gastric disturbances and may result in nausea and vomiting.

Reproductive / Development Effects: In animal studies NMP was embryotoxic by the oral, dermal and intraperitoneal routes, but only after repeated high doses that approached the LD50 or were maternally toxic. Embryotoxicity without maternal toxicity was observed at a high concentration in one rat inhalation study, but not in others. Testicular effects in rats were noted after repeated, high-dose oral and inhalation exposures. NMP was not carcinogenic in rats receiving lifetime exposures via inhalation (100 ppm) or the diet. NMP was not fetotoxic or teratogenic in rats exposed to NMP vapors up to 0.36 mg/l during gestation (Fund. and Appl. Tox. 9:222-235, 1987). NMP has been reported to cause aneuploidy in saccharomyces, but is not mutagenic in the Ames test (Env. and Molec. Mut. 11(1) 31-40, 1988). [1-13,12,15-062001], [11,24-13,12,15-110200]

2-(2-butoxyethoxy)ethanol acetate [CASRN 000124-17-4]

**ACUTE TOXICITY**

Oral LD50 (rat) = 7.1-12.2 ml/kg Eye irritation (rabbit): slight  
Oral LD50 (mouse) = 6.6 ml/kg Skin irritation (rabbit): slight  
Dermal LD50 (rabbit) = 5.5-14.8 ml/kg Skin sensitization (human): patch test, no definite sensitization

[20,2-1,2,0-011801], [4,16-6,4,3,2,0-051799], [4-4,3,2,0-032098]

---

**Section 12. Ecological Information**

N-methyl-2-pyrrolidone [CASRN 000872-50-4]

**ECOTOXICITY**

96 hr LC50 (golden orfe) = 4,000 mg/l, static 24 hr EC/LC50 (daphnia magna) > 1000 mg/l  
72 hr EC/LC50 (algal) > 500 mg/l IC50 (bacteria) > 9000 mg/l

Fate: Abiotic Degradability: Photolysis Half-Life 5.2 hrs. Biotic Degradability: BOD 92% (14 day).  
Theo. BOD (Modified MITI Test) 73 % (28 day)  
Elimination (method not specified) > 90 %, Readily Biodegradable  
Chemical Oxygen Demand: 1600 mg/l, Readily Biodegradable  
Biological Oxygen Demand, 5 day: 1100 mg/l, Readily Biodegradable  
Octanol/Water partition coefficient (log POW): -0.46 [11,24-13,12,15-110200], [1-13,12,15-062001]  
2-(2-butoxyethoxy)ethanol acetate [CASRN 000124-17-4]

**ECOTOXICITY**

48 hr LC50 (cladoceran) = 664.6 mg/l IC50 (bacteria) > 5000 mg/l  
48 hr LC50 (daphnia) = 664.6 mg/l 96 hr LC50 (fathead minnow) = 77 mg/l

**ENVIRONMENTAL FATE:**

Day 5 - 14-48% Theoretical Oxygen Demand (ThOD): 2.04 mg/mg (calculated)  
Day 10 - 54-75% Octanol/Water Partition Coefficient: 0.93 (calculated)  
Day 20 - 73-85% STURM (% CO2 evolved) 100% [20,2-1,2,0-011801]

---

**Section 13. Disposal Considerations**

Waste Disposal Methods (Federal, State, Local):

In accordance with all federal, state and local requirements.

RCRA Hazardous Waste Number: N/A

---

**FoundryGeneral® Foundry Cleaner 2988 --**

---

**Section 14. Transport Information**

Hazardous Material Description:

(Proper shipping name, hazard class, hazard ID#, packing group)

Domestic ground non-bulk: NOT REGULATED

Domestic ground bulk: NOT REGULATED

International: NOT REGULATED

---

**Section 15. Regulatory Information**

SARA 313 Information This product contains the following chemical(s) above de minimis concentrations and may be subject to reporting under section 313:

N-methyl-2-pyrrolidone, CAS# 872-50-4, 45 - 75 %.

Reportable Category: Certain glycol ethers, 15 - 45 %.

---

**Section 16. Other Information**

This MSDS contains revisions in the following sections: New product

Prepared by: General Chemical

Revised by:

The development of this Material Safety Data Sheet (MSDS) relies upon information provided to us by each of our raw material suppliers. This MSDS will be updated as changes occur to their MSDS(s).

We believe the recommendations and technical information contained herein to be accurate. However, they are given without warranty or guarantee, expressed or implied, and we assume no responsibility for losses or damage, direct or indirect, as a result of their use.