



# SAFETY DATA SHEET

## Section 1. Identification

### Manufacturer

HP Polymers  
32 Kerr Crescent  
Puslinch, Ontario, Canada N0B 2J0  
Tel: (519) 826 - 0374  
Fax: (519) 826 - 0376  
Web: hppolymers.com

### Supplier

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32 Kerr Crescent  
Puslinch, Ontario, Canada N0B 2J0  
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Web: hppolymers.com

**Emergency telephone number** (519) 826-0374 Chemtrec Contract No.: 683614

**Product name** POLYAMIDE-IMIDE  
**Code** HP7506

**Specific uses** Manufacture of resins.

## Section 2. Hazards identification

**OSHA/HCS status** This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A

### GHS label elements

#### Hazard pictograms



**Signal word** Warning!

**Hazard statements** Causes serious eye irritation.

### Precautionary statements

**Prevention** Wear eye or face protection. Wash hands thoroughly after handling.

**Response** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

**Storage** Not applicable.

**Disposal** Not applicable.

**Hazards not otherwise classified** None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** Mixture

Ingredient name	% by weight	CAS number
N-methyl-2-pyrrolidone	60 - 100	872-50-4

### Canada

### Section 3. Composition/information on ingredients

Name	CAS number	%
N-methyl-2-pyrrolidone	872-50-4	60 - 100

Occupational exposure limits, if available, are listed in Section 8.

### Section 4. First aid measures

#### Description of necessary first aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
<b>Skin contact</b>	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
<b>Ingestion</b>	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

#### Most important symptoms/effects, acute and delayed

##### Potential acute health effects

<b>Inhalation</b>	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Eye contact</b>	Causes serious eye irritation.
<b>Ingestion</b>	Irritating to mouth, throat and stomach.

##### Over-exposure signs/symptoms

<b>Inhalation</b>	No specific data.
<b>Skin contact</b>	No specific data.
<b>Eye contact</b>	Adverse symptoms may include the following: pain or irritation watering redness
<b>Ingestion</b>	No specific data.

#### Indication of immediate medical attention and special treatment needed, if necessary

<b>Notes to physician</b>	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
<b>Specific treatments</b>	No specific treatment.



## Section 4. First aid measures

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	None known.

**Specific hazards arising from the chemical** In a fire or if heated, a pressure increase will occur and the container may burst.

### National Fire Protection Association (U.S.A.)



**Hazardous thermal decomposition products** Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides

**Special protective actions for fire-fighters** Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

<b>Small spill</b>	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
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## Section 6. Accidental release measures

### Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Conditions for safe storage, including any incompatibilities

Store between the following temperatures: 5 to 30°C (41 to 86°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

### Precautions for safe handling

#### Protective measures

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

#### Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	CAS #	Exposure limits
N-methyl-2-pyrrolidone	872-50-4	<b>AIHA WEEL (United States, 10/2011). Absorbed through skin.</b> TWA: 10 ppm 8 hours.

#### Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			Notations
Ingredient	List name	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	
N-methyl-2-pyrrolidone	ON 1/2013 US AIHA 10/2011	- 10	400 -	- -	- -	- -	- -	- -	- -	- -	[1]

[1]Absorbed through skin.

### Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

### Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures



## Section 8. Exposure controls/personal protection

<b>Hygiene measures</b>	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
<b>Respiratory protection</b>	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
<b>Skin protection</b>	
<b>Hand protection</b>	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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
<b>Body protection</b>	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
<b>Other skin protection</b>	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
<b>Eye/face protection</b>	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

## Section 9. Physical and chemical properties

<b>Physical state</b>	Liquid.
<b>Color</b>	Reddish-brown
<b>Odor</b>	Amine-like.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point</b>	Not available.
<b>Boiling point</b>	202°C (395.6°F)
<b>Flash point</b>	Closed cup: 93.3°C (199.9°F)
<b>Evaporation rate</b>	<1 (butyl acetate = 1)
<b>Flammability (solid, gas)</b>	Extremely flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, oxidizing materials, reducing materials and combustible materials.
<b>Lower and upper explosive (flammable) limits</b>	Lower: 1.3% Upper: 9.5%
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	3.4 [Air = 1]
<b>Relative density</b>	0.9
<b>Solubility</b>	Insoluble in the following materials: cold water and hot water.
<b>Solubility in water</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.

## Section 10. Stability and reactivity

<b>Reactivity</b>	No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	The product is stable.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	No specific data.
<b>Incompatible materials</b>	No specific data.
<b>Hazardous decomposition products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
N-methyl-2-pyrrolidone	LD50 Dermal	Rabbit	8 g/kg	-
	LD50 Oral	Rat	3914 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
N-methyl-2-pyrrolidone	Eyes - Moderate irritant	Rabbit	-	100 milligrams	-

#### Sensitization

No specific data.

#### Mutagenicity

No specific data.

#### Carcinogenicity

No specific data.

#### Reproductive toxicity

No specific data.

#### Teratogenicity

No specific data.

#### Specific target organ toxicity (single exposure)

No specific data.

#### Specific target organ toxicity (repeated exposure)

No specific data.

#### Aspiration hazard

No specific data.

**Information on the likely routes of exposure** Not available.

#### Potential acute health effects



## Section 11. Toxicological information

<b>Eye contact</b>	Causes serious eye irritation.
<b>Inhalation</b>	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Ingestion</b>	Irritating to mouth, throat and stomach.

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Eye contact</b>	Adverse symptoms may include the following: pain or irritation watering redness
<b>Inhalation</b>	No specific data.
<b>Skin contact</b>	No specific data.
<b>Ingestion</b>	No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

<b>Potential immediate effects</b>	Not available.
<b>Potential delayed effects</b>	Not available.

#### Long term exposure

<b>Potential immediate effects</b>	Not available.
<b>Potential delayed effects</b>	Not available.

#### Potential chronic health effects

No specific data.

<b>General</b>	No known significant effects or critical hazards.
<b>Carcinogenicity</b>	No known significant effects or critical hazards.
<b>Mutagenicity</b>	No known significant effects or critical hazards.
<b>Teratogenicity</b>	No known significant effects or critical hazards.
<b>Developmental effects</b>	No known significant effects or critical hazards.
<b>Fertility effects</b>	No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Oral	3914 mg/kg

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
N-methyl-2-pyrrolidone	Acute LC50 832 ppm Fresh water	Fish - Lepomis macrochirus	96 hours

### Persistence and degradability

## Section 12. Ecological information

No specific data.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
N-methyl-2-pyrrolidone	-0.46	-	low

### Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) Not available.

Other adverse effects No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

RCRA classification Not applicable.

## Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IMDG	IATA
UN Number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	-	-	-	-	-

**Special precautions for user** **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.



## Section 15. Regulatory information

### United States

#### U.S. Federal regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112  
(b) Hazardous Air  
Pollutants (HAPs) Not listed

Clean Air Act Section 602  
Class I Substances Not listed

Clean Air Act Section 602  
Class II Substances Not listed

### SARA 302/304

#### Composition/information on ingredients

No products were found.

SARA 304 RQ Not applicable.

### SARA 311/312

Classification Immediate (acute) health hazard

#### Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
N-methyl-2-pyrrolidone	60 - 100	No.	No.	No.	Yes.	Yes.

### SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	N-methyl-2-pyrrolidone	872-50-4	60 - 100

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

#### Massachusetts

The following components are listed: 1-METHYL-2-PYRROLIDONE

#### New York

None of the components are listed.

#### New Jersey

The following components are listed: 1-METHYL-2-PYRROLIDONE;  
2-PYRROLIDINONE, 1-METHYL-

#### Pennsylvania

The following components are listed: 2-PYRROLIDINONE, 1-METHYL-

#### Minnesota Hazardous Substances

None of the components are listed.

### California Prop. 65

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

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
N-methyl-2-pyrrolidone	No.	Yes.	No.	3200 µg/day (inhalation)

### Canada

## Section 15. Regulatory information

**WHMIS (Canada)** Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).  
Class D-2B: Material causing other toxic effects (Toxic).

### Canadian lists

**Canadian NPRI** The following components are listed: N-Methyl-2-pyrrolidone  
**CEPA Toxic substances** None of the components are listed.  
**Canada inventory** All components are listed or exempted.

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.**

### International regulations

**International lists**

**Australia inventory (AICS):** All components are listed or exempted.  
**China inventory (IECSC):** All components are listed or exempted.  
**Japan inventory:** All components are listed or exempted.  
**Korea inventory:** All components are listed or exempted.  
**Malaysia Inventory (EHS Register):** Not determined.  
**New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.  
**Philippines inventory (PICCS):** All components are listed or exempted.  
**Taiwan inventory (CSNN):** Not determined.

### Substances of very high concern

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
N-methyl-2-pyrrolidone	Toxic to reproduction	Candidate	ED/31/2011	6/30/2011

## Section 16. Other information

**Key to abbreviations**

ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
UN = United Nations

**References** Not available.

☑ Indicates information that has changed from previously issued version.

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