



(CCT) | FINISHWORKS



morrells

SAFETY DATA SHEET

Date of Preparation 7/1/15

SECTION I - IDENTIFICATION

GHS PRODUCT IDENTIFIER: Spray Grain

PRODUCT NUMBER: M870-9400

PRODUCT CLASS/TYPE: Waterborne Polyurethane

MATERIAL USES: Resin used in the production of coating, inks and/or adhesives.

Supplier:

RPM Wood Finishes Group PO Box 22000 Hickory, NC 28603 (828) 728-8266

CHEMTREC: (800) 424-9300 International: (703) 527-3887 (collect)

SECTION 2 - HAZARD IDENTIFICATION

GHS label elements



Signal word : Danger Hazard statements: H360 - May damage the unborn child. Category 1B H351 - Suspected of causing cancer. Label elements: Labeling (regulation (EC) No. 1272/2008): Not a hazardous substance or mixture.

Precautionary statements
Prevention: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Use personal protective equipment as required.
Response: P308 + P313 - IF exposed or concerned: Get medical attention.
Storage: P405 - Store locked up.
Disposal: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements: Do not taste or swallow. Avoid contact with skin and clothing. Wash thoroughly after handling. Hazards not otherwise classified: Causes digestive tract burns. Prolonged or repeated contact may dry skin and cause irritation.



The PPE (Personal Protection Equipment) designation in the HMIS is provided for use by employees at supplier sites only. Other users of this product are encouraged to evaluate the hazards of the product and assign PPE that is applicable to their specific situations.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program.

The customer is responsible for determining the PPE code for this material.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture: Other means of identification:	Mixture Not available	
CAS number:		
Ingredient name	%	CAS number
2-Pyrrolidinone, 1-methyl-	2 5	872-50-4
Triethyl-amine	0.8	121-44-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present, which within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.

SECTION 4 - FIRST AID MEASURES

Eye contact: 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.

Skin contact: Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before re-use.

Inhalation: 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 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.

Ingestion: 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. 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

Inhalation: May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. Ingestion: Corrosive to the digestive tract. Causes burns.

Skin contact: Causes skin irritation.

Eye contact: No known significant effects or critical hazards.

Over-exposure signs/symptoms Eye contact: No specific data.

Inhalation Adverse symptoms may include the following: reduced fetal weight - increase in fetal deaths - skeletal malformations Ingestion: Adverse symptoms may include the following: stomach pains reduced fetal weight - increase in fetal deaths - skeletal malformations

Skin contact: Adverse symptoms may include the following: irritation - dryness - cracking - reduced fetal weight - increase in fetal deaths - skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary Notes to physician: 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.

Specific treatments: No specific treatment.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

<u>SECTION 5 - FIRE FIGHTING MEASURES</u> Extinguishing media: Suitable extinguishing: 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. This material is harmful to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products: Decomposition products may include the following materials: carbon dioxide - carbon monoxide - nitrogen oxides - carbon dioxide - (dense) black smoke - aldehydes - organic acids

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.

Remarks: The material will not support combustion unless the water has evaporated.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel: 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.

For emergency responders: If specialized 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

Small spill: 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.

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 noncombustible, 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

Precautions for safe handling

Protective measures: Put on appropriate personal protective equipment (see Section 8). 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. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.

Conditions for safe storage, including any incompatibilities: Store between the following temperatures: 5 to 40°C (41 to 104°F). Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. 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. Store in original container, protected from direct sunlight. Sensitive to frost.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters Occupational exposure limits Ingredient name 1-methyl-2-pyrrolidone

Triethylamine

Exposure limits AIHA WEEL (United States, 10/2011). Absorbed through skin. TWA: 10 ppm 8 hours. ACGIH TLV (United States, 4/2014). Absorbed through skin. TWA: 1 ppm 8 hours. TWA: $4.1 \text{ mg/m}^3 8$ hours. STEL: 3 ppm 15 minutes. STEL: 12 mg/m³ 15 minutes. OSHA PEL 1989 (United States, 3/1989). TWA: 10 ppm 8 hours TWA: $40 \text{ mg/m}^3 8 \text{ hours.}$ STEL: 15 ppm 15 minutes. STEL: 60 mg/m³ 15 minutes. OSHA PEL (United States, 2/2013). TWA: 25 ppm 8 hours. TWA: 100 mg/m³ 8 hours

Appropriate engineering controls: If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. 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.

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

Hygiene measures: 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.

Eye/face protection: 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, gasesor dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection: 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. > 8 hours (breakthrough time): butyl rubber (0.70 mm) < 1 hour (breakthrough time): nitrile rubber (0.5 mm). 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: safety glasses with side-shields.

Body protection: 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.

Other skin protection: 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.

Respiratory protection: 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.

Personal protective equipment (Pictograms):



Remarks If respiratory protection is needed, use a NIOSH certified respirator with an Assigned Protection Factor (APF) of at least 10.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance Physical state: Liquid. [clear] Color: Translucent. Odor: Mild. Odor threshold: Not available. pH: 8 Melting point: Not available. Boiling point: 100 °C Flash point: Closed cup: >212°F (>100°C) [(estimate)] Evaporation rate: Not available. Flammability (solid, gas): Not available. Lower and upper explosive (flammable) limits: Not available. Vapor pressure: 2.3 kPa Vapor density: Not available Relative density: 1.06 (Water = 1) Density (g/cm³) : 1.06 g/cm³ (20°C) Bulk density: Not available. Solubility: Partially soluble in the following materials: cold water and hot water. Solubility in water: Yes. Partition coefficient: noctanol/water: Not available. Auto-ignition temperature: Not available. Decomposition temperature: Not available. Viscosity: Dynamic: Not determined - Kinematic: Not determined

SECTION 10 -STABILITY AND REACTIVITY

Reactivity: No specific test data related to reactivity available for this product or its ingredients. Chemical stability The product is stable. Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur. Conditions to avoid: No specific data.

SECTION 11 - TOXICOLOGICAL INFORMATION Information on toxicological effects

Acute toxicity				
Product/ingredient name	Result	Species	Dose	Exposure
2-Pyrrolidinone, 1-methyl-	LC50 Inhalation Dusts and mists	Rat	>5.1 mg/l	4 hours
	LD50 Dermal	Rabbit	8000 mg/kg	-
	LD50 Dermal	Rat	7000 mg/kg	-
	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	3600 mg/kg	-
	LD50 Oral	Rat	4150 mg/kg	-
Triethyl amine	LC50 Inhalation Vapor	Rat	7.1 mg/l	4 hours
	LD50 Dermal	Rabbit	570 mg/kg	-
	LD50 Oral	Rat	460 mg/kg	-
Irritation/Corrosion Triethyl amine	Result Species Skin - Mild irritant Skin-Visible necrosis Rabbit Eyes Cornea opacity Rabbit	Score Rabbit - 3	Exposure - 1 to 15 min. -	Observation 365 milligrams 26 hours -
<u>Sensitization</u> Product/ingredient name Triethyl amine	Route of exposure amine skin	Species Guinea pig	Result Not sensitizing	
<u>Mutagenicity</u> product/ingredient name 2-Pyrrolidinone, 1-methyl- Triethyl amine	Test Ames test Experiment: Ames test Experiment:	Experiment In vitro In vitro	Result Negative Negative	Subject Bacteria Bacteria

Carcinogenicity: Not available. Repoductive toxicity: Not available. Teratogenicity: Not available

<u>Specific target organ toxicity (s</u>	<u>ingle exposure)</u>		
Name	Category	Route of exposure	Target organs
2-Pyrrolidinone, 1-methyl-	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure): not available Aspiration hazard): not available

Potential acute health effects Eye contact: No known significant effects or critical hazards Inhalation: May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. Skin contact: Causes skin irritation. Ingestion: Corrosive to the digestive tract. Causes burns.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data

Inhalation: Adverse symptoms may include the following: reduced fetal weight, increase in fetal deaths, skeletal malformations Skin contact: Adverse symptoms may include the following:, irritation, dryness, cracking, reduced fetal weight, increase in fetal deaths, skeletal malformations

Ingestion: Adverse symptoms may include the following: stomach pains, reduced fetal weight, increase in fetal deaths, skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure: Not available Long term exposure: Not available.

Potential chronic health effects				
Product/ingredient name	Result	Species	Dose	Exposure
Triethyl amine	Sub-chronic NOAEC Inhalation	Vapor Rat 247 ppm	28 weeks;	6 hours per day

General: Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Carcinogenicity: No known significant effects or critical hazards. Mutagenicity: No known significant effects or critical hazards. Teratogenicity: May damage the unborn child. Developmental effects: No known significant effects or critical hazards. Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity: Acute toxicity estimatesATE valueRouteATE valueOral15889.9 mg/kgDermal31585.9 mg/kgInhalation (gases)249362.7 ppmInhalation (vapors)393.4 mg/lInhalation (dusts and mists)83.12 mg/l

SECTION 12 - ECOLOGICAL INFORMATION

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Toxicity			
Product/ingredient name	Result Species	Exposure	
2-Pyrrolidinone, 1-methyl-	Acute EC50 >9000 mg/1	Bacteria	48 hours
	Acute EC50 >1000 mg/1	Daphnia	24 hours
	Acute EC50 >600 mg/1 Micro-organism	0.5 hours	
	Acute IC50 >500 mg/1 Algae	72 hours	
	Acute LC50 >500 mg/1 Fish	96 hours	
	Chronic NOEC 12.5 mg/l Daphnia	21 days	
Triethyl amine	Acute EC50 1.167 mg/1	Algae	96 hours
	Acute EC50 95 mg/1 Bacteria	17 hours	
	Acute EC50 17 mg/1 Daphnia	48 hours	
	Acute LC50 36 mg/1 Fish	96 hours	
	Acute NOAEC 12 mg/1	Daphnia	48 hours
	Acute NOEC 16 mg/1 Fish	-	
	Chronic LC50 137 mg/l	Fish	60 days
	Chronic NOEC 7.1 mg/1	Daphnia	7 days
	Chronic NOEC 3.2 mg/1	Fish	60 days

Persistence and degradability: Not available.

Product/ingredient name 2-Pyrrolidinone, 1-methyl- Triethyl amine	301C Ready Biodegrad OECD 301B Ready Biod			
Product/ingredient name 2-Pyrrolidinone, 1-methyl Triethyl amine		Aquatic half-life - -	Photolysis - -	Biodegradability Readily Readily
<u>Bioaccumulative potential</u> Product/ingredient name 2-Pyrrolidinone, 1-methyl- Triethyl amine		LogPow -0.46 1.45	BCF Potentia 0.2 <0.5	Potential low low

<u>Mobility in soil</u>: Soil/water partition coefficient (KOC): 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.

United States - RCRA Toxic hazardous waste "U" List

Ingredient CAS# Status Reference number Triethyl amine 121-44-8 Listed U404

SECTION 14 - TRANSPORT INFORMATION

DOT transportation Data (49 CFR 172.101): DOT, TDG, Mexico classification: Not regulated ADR/RID, IMDG, IATA: Not regulated

Shipping Name: N/A Hazard Class: N/A Shipping Symbols: N/A Evironmental: N/A

Not dangerous goods in the meaning of RID/ADR, ADNR, IMDG-Code, ICAO/IATA-DGR

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

U.S. Federal regulations: United States inventory (TSCA 8b): All components are listed or exempted. Clean Water Act (CWA) 311: triethylamine

	Product/ingredient name	CAS #	%
Clean Air Act Section 112(b)	Triethyl amine	121-44-8	0.8
Hazardous Air Pollutants (HAPs):	-		

Clean Air Act Section 602 Class I Substances: Not listed Clean Air Act Section 602 Class II Substances: Not listed DEA List I Chemicals Precursor Chemicals): Not listed DEA List II Chemicals (Essential Chemicals): Not listed

SARA 313

	Product/ingredient name	CAS #	%
Form R - Reporting requirements	2-Pyrrolidinone, 1-methyl-	872-50-4	2.5
	Triethyl amine	121-44-8	0.8
Supplier notification	2-Pyrrolidinone, 1-methyl-	872-50-4	2.5
	Triethyl amine	121-44-8	.08

State regulations

Massachusetts: The following components are listed: 1-METHYL-2-PYRROLIDONE, TRIETHYLAMINE New York: The following components are listed: TRIETHYLAMINE New Jersey: The following components are listed: 1-METHYL-2-PYRROLIDONE; 2-PYRROLIDINONE, 1-METHYL-; TRIETHYLAMINE; ETHANAMINE, N,N-DIETHYL Pennsylvania: The following components are listed: 2-PYRROLIDINONE, 1-METHYL-; ETHANAMINE, N, N-DIETHYL 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 C	ancer	Reproductiv	e No significant risk leve	el Maximum acceptable dosage level
2-Pyrrolidinone, 1-methyl-	No.	Yes.	No.	3200 µg/day (inhalation)

International regulations: Chemical Weapon Convention List Schedules I, II & III Chemicals: NOT LISTED Montreal Protocol (Annexes A, B, C, E): Not listed. Stockholm Convention on Persistent Organic Pollutants: Not listed. Ingredient name List name Status Rotterdam Convention on Prior Inform Consent (PIC): Not listed. Ingredient name List name Status UNECE Aarhus Protocol on POPs and Heavy Metals: Not listed. Canada inventory: All components are listed or exempted.

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

IMPORTANT: The information on this sheet corresponds to our present knowledge. It is not a specification and it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product where instructions and recommendations are not followed.