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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product code 2732
Product name Thinner
Product category Ink Product

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Printing operations

Details of the supplier of the safety data sheet

UNITED STATES	UNITED KINGDOM
Nazdar Company	Nazdar Limited
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Shawnee, KS 66227	Heaton Mersey
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Tel: +001-800-677-4657	Tel: +44 161 442 2111
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Emergency telephone number

USA: Chemtrec: +001-800-424-9300
Outside USA: Chemtrec: +001-703-527-3887
24 Hour Emergency Phone Number

2. HAZARDS IDENTIFICATION

Classification

Skin Corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2 - (H319)
Reproductive toxicity	Category 1B - (H360D)
Specific target organ toxicity (single exposure)	Category 3 - (H335)

Label elements



Signal Word
Danger

Hazard Statements

H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H360D - May damage the unborn child

Precautionary Statements

P264 - Wash face, hands and any exposed skin thoroughly after handling

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/attention

P202 - Do not handle until all safety precautions have been read and understood

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P308 + P313 - IF exposed or concerned: Get medical advice/attention

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

Hazards not otherwise classified (HNOC)

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS**Mixture**

Component	CAS-No	Weight %	Trade Secret	Note
1-Methyl-2-pyrrolidone	872-50-4	30 - 60	*	

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES**Description of first aid measures****General Advice**

Show this safety data sheet to the doctor in attendance.

Eye Contact

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if irritation develops and persists.

Skin Contact

Wash off immediately with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation (redness, rash, blistering) develops, get medical attention.

Inhalation

Remove person to fresh air and keep comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.

Ingestion

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Most important symptoms and effects, both acute and delayed

None under normal use conditions.

Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Foam. Carbon dioxide (CO₂). Dry chemical. Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

No information available.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. May emit toxic fumes under fire conditions.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers / tanks with water spray. Sealed containers may rupture when heated.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Remove all sources of ignition. Ventilate the area. Avoid contact with eyes, skin and clothing. Avoid breathing dust or vapor. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Keep out of drains, sewers, ditches and waterways. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Use clean non-sparking tools to collect absorbed material.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Use personal protective equipment as required. Do not eat, drink or smoke when using this product. Ensure adequate ventilation.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep container closed when not in use. Keep out of the reach of children. Do not freeze.

Incompatible Products Strong acids. Strong bases. Strong oxidizing agents. Reducing agent.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits

Component	Ontario TWAEV
1-Methyl-2-pyrrolidone 872-50-4	TWA: 400 mg/m ³

Appropriate engineering controls

Engineering Measures Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Users are advised to consider national Occupational Exposure Limits or other equivalent values. In case of insufficient ventilation, wear suitable respiratory equipment.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses with side shields (or goggles). If splashes are likely to occur. Wear suitable face shield. Ensure that eyewash stations and safety showers are close to the workstation location.

Skin Protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Hand Protection

Chemical resistant protective gloves.

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding >480 minutes of permeation time): eg. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) and other

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers. Taking into account the varying conditions, the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Due to different glove types, the manufacturer's directions for use should be observed.

Replace gloves immediately when torn or any change in appearance is noticed such as dimension, color, flexibility.

Respiratory Protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Wash hands before eating, drinking or smoking. Wash contaminated clothing before reuse. Avoid contact with eyes, skin and clothing. Wear suitable gloves and eye/face protection. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid	Appearance	Colored Liquid
Odor	Characteristic	Odor Threshold	No information available

Property**Values****Remarks • Method**

pH

No data available

Melting Point / Freezing Point

No data available

Boiling Point / Boiling Range

> 100 °C / 212 °F

Flash Point

> 94 °C / > 201 °F

Evaporation rate

Pensky Martens Closed Cup (PMCC)

Flammability Limit in Air

No data available

Upper flammability limit

No data available

Lower flammability limit

No data available

Vapor Pressure

No data available

Vapor Density

No data available

Specific Gravity

1.01

Water Solubility

No data available

Solubility in other solvents

No data available

Partition coefficient: n-octanol/water

No data available

Autoignition Temperature

No data available

Decomposition temperature

No data available

Kinematic viscosity

No data available

Dynamic viscosity

No data available

Explosive Properties

No data available

Oxidizing Properties

No data available

Other Information

Photochemically Reactive

No

Weight Per Gallon (lbs/gal)

8.42

VOC by weight % (less water)	VOC by volume % (less water)	VOC lbs/gal (less water)	VOC grams/liter (less water)
40.2	No information available	3.44	412.16
Volatile by weight (including Water)	Water by weight		

100

59.8

10. STABILITY AND REACTIVITY

Reactivity

No information available.

Chemical stability

Stable under normal conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition. Do not freeze.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents. Reducing agent.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors. Carbon dioxide (CO₂). Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation

Specific test data for the substance or mixture is not available.

Eye Contact

Specific test data for the substance or mixture is not available.

Skin Contact

Specific test data for the substance or mixture is not available.

Ingestion

Specific test data for the substance or mixture is not available.

Component	Oral LD50
1-Methyl-2-pyrrolidone 872-50-4	= 3914 mg/kg (Rat)

Component	Dermal LD50
1-Methyl-2-pyrrolidone 872-50-4	= 8 g/kg (Rabbit)

Component	Inhalation LC50
1-Methyl-2-pyrrolidone 872-50-4	> 5.1 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms

Specific test data for the substance or mixture is not available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation

Specific test data for the substance or mixture is not available. Causes skin irritation (pain, redness and swelling). (based on components).

Eye damage/irritation

Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components).

Irritation

Specific test data for the substance or mixture is not available.

Corrosivity

Specific test data for the substance or mixture is not available.

Sensitization

Specific test data for the substance or mixture is not available.

Mutagenic Effects

Specific test data for the substance or mixture is not available.

Carcinogenic effects

Specific test data for the substance or mixture is not available.

Reproductive Effects

Specific test data for the substance or mixture is not available. May damage the unborn child. (based on components).

STOT - single exposure

Specific test data for the substance or mixture is not available. May cause respiratory irritation. (based on components).

STOT - repeated exposure
Chronic Toxicity
Aspiration hazard
Carcinogenicity

Specific test data for the substance or mixture is not available.
 Specific test data for the substance or mixture is not available.
 Specific test data for the substance or mixture is not available.
 This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity 0 % of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document mg/kg mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Specific test data for the substance or mixture is not available.

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Component	Algae/aquatic plants
1-Methyl-2-pyrrolidone 872-50-4	72h EC50 <i>Desmodesmus subspicatus</i> : > 500 mg/L

Component	Fish
1-Methyl-2-pyrrolidone 872-50-4	96h LC50 <i>Poecilia reticulata</i> : = 1400 mg/L (static) 96h LC50 <i>Lepomis macrochirus</i> : = 832 mg/L (static) 96h LC50 <i>Pimephales promelas</i> : = 1072 mg/L (static)

Component	Crustacea
1-Methyl-2-pyrrolidone 872-50-4	48h EC50 <i>Daphnia magna</i> : = 4897 mg/L

Persistence and Degradability

No information available.

Bioaccumulation

No information available

Component	Partition coefficient
1-Methyl-2-pyrrolidone 872-50-4	-0.46

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Methods

Contain and dispose of waste according to local regulations.

Contaminated Packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

Note:

This information is not intended to convey all specific transportation requirements relating to this product. Transportation classifications may vary by container volume and may be

influenced by regional or country variations in regulations. Additional transportation information can be found in the specific regulations for your mode of transportation. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

DOT
Proper Shipping Name Not regulated
 Printing Ink Related Material

ICAO / IATA / IMDG / IMO
Proper Shipping Name Not Regulated
 Printing Ink Related Material

15. REGULATORY INFORMATION

International Inventories

All components are listed on the TSCA Inventory. For further information, please contact: Supplier (manufacturer/importer/downstream user/distributor).

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Component	CAS-No	Weight %	SARA 313 - Threshold Values
1-Methyl-2-pyrrolidone	872-50-4	30 - 60	1.0

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

U.S. State Regulations

Component	Massachusetts Right To Know
1-Methyl-2-pyrrolidone 872-50-4	X

Component	Minnesota Right To Know
1-Methyl-2-pyrrolidone 872-50-4	X

Component	New Jersey Right To Know
1-Methyl-2-pyrrolidone 872-50-4	X

Component	Pennsylvania Right To Know
1-Methyl-2-pyrrolidone 872-50-4	X

California Prop. 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm

Component	California Prop. 65
1-Methyl-2-pyrrolidone	Developmental

Canada

Component	NPRI - National Pollutant Release Inventory
1-Methyl-2-pyrrolidone 872-50-4	Part 1, Group A Substance; Part 4 Substance

16. OTHER INFORMATION

HMIS:	Health	Flammability	Reactivity	Personal Protection
	2 *	1	0	X

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)
STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value

ACGIH: (American Conference of Governmental Industrial Hygienists)

- A1 - Known Human Carcinogen
- A2 - Suspected Human Carcinogen
- A3 - Animal Carcinogen

IARC: (International Agency for Research on Cancer)

- Group 1 - Carcinogenic to Humans
- Group 2A - Probably Carcinogenic to Humans
- Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

- Known - Known Carcinogen
- Reasonably Anticipated to be a Human Carcinogen

OSHA: (Occupational Safety & Health Administration)

- X - Present

Revision Date May-15-2019

Pursuant to NOM-018-STPS-2015

This information within is considered correct but is not exhaustive and will be used for guidance only, which is based on the current knowledge of the substance or mixture and is applicable to the appropriate safety precautions for the product.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet