

Section 1 - PRODUCT AND COMPANY IDENTIFICATION**Material Name**

Safety-Kleen N-Methyl-2-Pyrrolidone (NMP)

Product Code

Not available

Synonyms

Not available

Product Use

Solvent. If this product is used in combination with other products consult the Safety Data Sheet for those products.

Restrictions on Use

None known

Manufacturer Information

Safety-Kleen Systems, Inc.

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Emergency # 1-800-468-1760

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Section 2 - HAZARDS IDENTIFICATION**Classification in accordance with paragraph (d) of 29 CFR 1910.1200.**

Flammable Liquids - Category 4

Acute Toxicity - Inhalation - Dust/Mist - Category 3

Skin Corrosion/Irritation - Category 2

Serious Eye Damage/Eye Irritation - Category 2A

Reproductive Toxicity - Category 1B

Specific target organ toxicity - Single exposure - Category 3

Specific target organ toxicity - Repeated exposure - Category 1

GHS Label Elements**Symbol(s)****Signal Word**

Danger

Hazard Statement(s)

Combustible liquid.

Toxic if inhaled.

Causes skin irritation.

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Causes serious eye irritation.
May damage fertility or the unborn child.
May cause respiratory tract irritation.
Causes damage to organs through prolonged or repeated exposure. (adrenal gland , bone marrow , kidneys , liver , respiratory system , spleen)

Precautionary Statement(s)

Prevention

Keep away from heat/sparks/open flame/hot surfaces - No smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Response

In case of fire: Use carbon dioxide, regular dry chemical, regular foam, and water spray for extinction. IF exposed or concerned. Get medical advice/attention. IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. 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 advice/attention.

Storage

Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Disposal

Dispose of in accordance with all applicable federal, state and local regulations.

Other Hazards

None known.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
872-50-4	1-Methyl-2-pyrrolidone	85-95
57-55-6	1,2-Propylene glycol	5-15

Section 4 - FIRST AID MEASURES

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician.

Skin

IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Eyes

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 advice/attention.

Ingestion

IF SWALLOWED: Do NOT induce vomiting. If vomiting occurs, keep head lower than hips to help prevent aspiration. Call a POISON CENTER or doctor/physician if you feel unwell.

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Most Important Symptoms/Effects

Acute

Toxic if inhaled, skin irritation, eye irritation, respiratory tract irritation.

Delayed

Reproductive effects, adrenal gland effects, bone damage, kidney damage, liver damage, respiratory system damage, spleen damage.

Indication of any immediate medical attention and special treatment needed

IF exposed: Call a POISON CENTER or doctor/physician. Treat symptomatically and supportively.

Treatment may vary with condition of victim and specifics of incident. Call 1-800-468-1760 for additional information.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, regular dry chemical, regular foam, water spray

Unsuitable Extinguishing Media

Do not use high-pressure water streams.

Special Hazards Arising from the Chemical

Combustible liquid and vapor. Vapors may form explosive mixture with air. Vapors are heavier than air and may travel along the ground to some distant source of ignition and flash back. Fire may produce irritating, poisonous and/or corrosive fumes. Runoff may create fire or explosion hazard. Empty containers may contain product residue. Containers may rupture or explode.

Hazardous Combustion Products

Oxides of carbon, carbon monoxide, unidentified organic compounds

Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. Do not scatter spilled material with high-pressure water streams. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile). Stay upwind and keep out of low areas. Dike for later disposal.

Special Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8.

Methods and Materials for Containment and Cleaning Up

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear protective equipment and provide engineering controls as specified in SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean, sparkproof tool into a sealable container for disposal. Additionally, for large spills: Dike far ahead of liquid spill for collection and later disposal. There may be specific federal regulatory reporting requirements associated with spills, leaks, or releases of this product. Also see SECTION 15: REGULATORY INFORMATION.

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Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Keep away from heat, sparks, or flame. Where flammable mixtures may be present, equipment safe for such locations should be used. Use clean, sparkproof tools and explosion-proof equipment. When transferring product, metal containers, including trucks and tank cars, should be grounded and bonded. Do not breathe vapor or mist. Use in a well ventilated area. Avoid contact with eyes, skin, clothing, shoes. Do not smoke while using this product. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

Conditions for Safe Storage, Including any Incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up. Keep containers away from heat, flame, sparks, static electricity, or other sources of ignition. Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Empty product containers may retain product residue and can be dangerous. See SECTION 14: TRANSPORT INFORMATION for packing group information.

Incompatible Materials

Acids, bases, oxidizing materials

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

ACGIH, OSHA, and NIOSH have not developed exposure limits for any of this product's components.

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

1-Methyl-2-pyrrolidone (872-50-4)

100 mg/l Medium: urine Time: end of shift Parameter: 5-Hydroxy-N-methyl-2-pyrrolidone

Engineering Controls

Provide general ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Where eye contact is likely, wear safety glasses; contact lens use is not recommended. Additional protection like goggles, face shields, or respirators may be needed dependent upon anticipated use and concentrations of mists or vapors.

Respiratory Protection

A respiratory protection program which meets USA's OSHA General Industry Standard 29 CFR 1910.134 or Canada's CSA Standard Z94.4-M1982 requirements must be followed whenever workplace conditions warrant a respirator's use. Consult a qualified Industrial Hygienist or Safety Professional for respirator selection guidance.

Skin Protection/Glove Recommendations

Where skin contact is likely, wear gloves impervious to product; use of natural rubber (latex) or equivalent gloves is not recommended. To avoid prolonged or repeated contact where spills and splashes are likely, wear appropriate chemical-resistant face shield, boots, apron, whole body suits or other protective clothing.

Protective Materials

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to regulatory requirements. The following PPE should be considered the minimum required: Safety glasses, Gloves, and Lab coat or apron.

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colorless to light yellow liquid	Physical State	Liquid
Odor	Amine-like odor	Color	Colorless to light yellow.
Odor Threshold	Not available	pH	Not available
Melting Point	-24 °C (-11.2 °F)	Boiling Point	202 °C (395.6 °F)
Boiling Point Range	Not available	Freezing point	Not available
Evaporation Rate	Not available	Flammability (solid, gas)	Not applicable.
Autoignition Temperature	346 °C (655 °F)	Flash Point	92.8 °C (199 °F)
Lower Explosive Limit	1.3 %	Decomposition temperature	Not available
Upper Explosive Limit	9.5 %	Vapor Pressure	0 kPa @ 20) °C
Vapor Density (air=1)	3.4 (Air = 1)	Specific Gravity (water=1)	1.026 (Water = 1)
Water Solubility	(Miscible)	Partition coefficient: n-octanol/water	Not available
Viscosity	Not available	Kinematic viscosity	Not available
Solubility (Other)	Not available	Density	8.55 lb/gal
Physical Form	Liquid.	Molecular Weight	Not available
OSHA Flammability Category	Class IIIA		

Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable at normal temperatures and pressure.

Possibility of Hazardous Reactions

Will not polymerize under normal temperature and pressure conditions.

Conditions to Avoid

Avoid heat, sparks or flame. Avoid contact with incompatible materials.

Incompatible Materials

Avoid acids, bases, oxidizing materials.

Hazardous decomposition products

Burning may produce carbon dioxide, carbon monoxide, nitrogen oxides, unidentified organic compounds.
See also SECTION 5: HAZARDOUS COMBUSTION PRODUCTS.

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Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation

Toxic if inhaled. May cause respiratory tract irritation, nausea, headache, drowsiness, vomiting, dizziness, loss of coordination.

Skin Contact

Causes skin irritation.

Eye Contact

Causes eye irritation.

Ingestion

May cause throat irritation, nausea, vomiting, diarrhea.

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

1-Methyl-2-pyrrolidone (872-50-4)

Oral LD50 Rat 3914 mg/kg; Dermal LD50 Rabbit 8 g/kg; Inhalation LC50 Rat >5.1 mg/L 4 h

1,2-Propylene glycol (57-55-6)

Oral LD50 Rat 20 g/kg; Dermal LD50 Rabbit 20800 mg/kg

Product Toxicity Data

Acute Toxicity Estimate

No data available.

Immediate Effects

Toxic if inhaled, skin irritation, eye irritation, respiratory tract irritation

Delayed Effects

Reproductive Effects, adrenal gland effects, bone damage, liver damage, kidney damage, respiratory system damage, spleen damage

Irritation/Corrosivity Data

Causes skin, eye and respiratory irritation.

Respiratory Sensitization

No information available for the product.

Dermal Sensitization

No information available for the product.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA.

Germ Cell Mutagenicity

No information available for the product.

Tumorigenic Data

No information available for the product.

Reproductive Toxicity

Available data characterizes components of this product as reproductive hazards.

Specific Target Organ Toxicity - Single Exposure

Respiratory system.

Specific Target Organ Toxicity - Repeated Exposure

Adrenal gland effects, bone marrow, respiratory system, kidneys, liver, spleen.

Aspiration hazard

No information available for the product.

Medical Conditions Aggravated by Exposure

Skin disorders, eye disorders, respiratory disorders, kidney disorders, liver disorders.

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Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity

No information available for the product.

Component Analysis - Aquatic Toxicity

1-Methyl-2-pyrrolidone	872-50-4
Fish:	LC50 96 h <i>Lepomis macrochirus</i> 832 mg/L [static]; LC50 96 h <i>Pimephales promelas</i> 1072 mg/L [static]; LC50 96 h <i>Poecilia reticulata</i> 1400 mg/L [static]
Algae:	EC50 72 h <i>Desmodesmus subspicatus</i> >500 mg/L IUCLID
Invertebrate:	EC50 48 h <i>Daphnia magna</i> 4897 mg/L IUCLID
1,2-Propylene glycol	57-55-6
Fish:	LC50 96 h <i>Oncorhynchus mykiss</i> 51600 mg/L [static]; LC50 96 h <i>Oncorhynchus mykiss</i> 41 - 47 mL/L [static]; LC50 96 h <i>Pimephales promelas</i> 51400 mg/L [static]; LC50 96 h <i>Pimephales promelas</i> 710 mg/L
Algae:	EC50 96 h <i>Pseudokirchneriella subcapitata</i> 19000 mg/L IUCLID
Invertebrate:	EC50 48 h <i>Daphnia magna</i> >1000 mg/L [Static] EPA

Persistence and Degradability

No information available for the product.

Bioaccumulative Potential

No information available for the product.

Mobility

No information available for the product.

Other Toxicity

No additional information is available.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Hazardous Waste Number(s): D001. Subject to disposal regulations: U.S. EPA 40 CFR 262. Based on available data, this information applies to the product as supplied to the user. Processing, use, or contamination by the user may change the waste code applicable to the disposal of this product. Dispose in accordance with federal, state, provincial, and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal.

Section 14 - TRANSPORT INFORMATION

US DOT Information:

Non-Bulk Packages (≤119 gal): Not regulated for transport.

Bulk Packages: Shipping Name: Combustible liquid, n.o.s (Contains: 1-Methyl-2-pyrrolidone)

UN/NA #: NA1993 **Hazard Class:** 3 **Packing Group:** III

Required Label(s): Combustible liquid

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IATA Information:

UN#: Not regulated as dangerous goods.

IMDG Information:

UN#: Not regulated as dangerous goods.

TDG Information:

UN#: Not regulated as dangerous goods.

International Bulk Chemical Code

This material contains one or more of the following chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

1-Methyl-2-pyrrolidone	872-50-4
IBC Code:	Category Y

Further information

128 Reference. North American Emergency Response Guidebook

Section 15 - REGULATORY INFORMATION
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U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

1-Methyl-2-pyrrolidone	872-50-4
SARA 313:	1 % de minimis concentration
TSCA 12b:	Section 5 , 1 % de minimis concentration; Section 6 , 1 % de minimis concentration

Chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

CAS-No.	Name	Percent by Weight
872-50-4	1-Methyl-2-pyrrolidone	85-95

SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories

Flammable; Reproductive Toxicity; Skin Corrosion/Irritation; Serious Eye Damage/Eye Irritation; Specific Target Organ Toxicity

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
1-Methyl-2-pyrrolidone	872-50-4	No	Yes	Yes	Yes	Yes
1,2-Propylene glycol	57-55-6	No	No	Yes	Yes	Yes

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

Warning! This product can expose you to chemicals including 1-Methyl-2-pyrrolidone , which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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1-Methyl-2-pyrrolidone	872-50-4
Repro/Dev. Tox	developmental toxicity , 6/15/2001

Component Analysis - Inventory

1-Methyl-2-pyrrolidone (872-50-4)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No
KR - REACH CCA			MX	NZ	PH	TH-TECI	TW, CN	VN (Draft)
Yes			Yes	Yes	Yes	Yes	Yes	Yes

1,2-Propylene glycol (57-55-6)

US	CA	AU	CN	EU	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2
Yes	DSL	Yes	Yes	EIN	Yes	Yes	Yes	No
KR - REACH CCA			MX	NZ	PH	TH-TECI	TW, CN	VN (Draft)
No			Yes	Yes	Yes	Yes	Yes	Yes

Section 16 - OTHER INFORMATION

NFPA Ratings

Health: 2 Fire: 2 Instability: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

2022-01: Addition to Section 15.

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition

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coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; KR REACH CCA - Korea Registration and Evaluation of Chemical Substances Chemical Control Act; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX – Mexico; Ne- Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL – Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA – Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TH-TECI - Thailand - FDA Existing Chemicals Inventory (TECI); TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW – Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

Other Information

Disclaimer:

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to the information or the product to which the information refers. The data contained on this sheet apply to the product as supplied to the user.