## 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.
42 Longwater Drive
Norwell, Massachusetts 02061-9149
Phone: 1-800-669-5740
Emergency # 1-800-468-1760

**Issue Date**
June 24, 2021
**Supersedes Issue Date**
October 8, 2018
**Original Issue Date**
March 2, 2018

## 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.

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.

**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.

## 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.

## 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.

## 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.

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

**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

**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 |

**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.

| | |
|---|---|
| **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**

Regulatory review and update.

**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 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.