Chem-Trend® MOC-10009

Version	Revision Date:	Date of last issue: -	Print Date:
1.0	02/08/2023	Date of first issue: 02/08/2023	04/04/2023

SECTION 1. IDENTIFICATION

Product name : Chem-Trend® MOC-10009

Manufacturer or supplier's details

Company name of supplier : Chem-Trend LP
1445 W McPherson Park Dr
PO Box 860, Howell MI 48844-0860
United States
+1 517 546 4520

E-mail address of person responsible for the SDS : SDS-NA@chemtrend.com

Emergency telephone number : +1 517 545 7070

Recommended use of the chemical and restrictions on use

Recommended use : Cleaning agent / Cleaner

Restrictions on use : For industrial use only.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids : Category 3

Skin irritation : Category 2

Eye irritation : Category 2A

Skin sensitisation : Category 1

Reproductive toxicity : Category 1B

Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

Aspiration hazard : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Flammable liquid and vapour.
May be fatal if swallowed and enters airways.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause respiratory irritation.
May damage fertility or the unborn child.

Precautionary statements :

Prevention:

Obtain special instructions before use.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
IF exposed or concerned: Get medical advice/ attention.
Do NOT induce vomiting.
In case of fire: Use alcohol-resistant foam, carbon dioxide or water mist to extinguish.

Storage:

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

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
N-methyl-2-pyrrolidone	872-50-4	Trade secret (>= 30 - < 60)
d-limonene	5989-27-5	Trade secret (>= 30 - < 60)

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

If inhaled	:	Remove person to fresh air. If signs/symptoms continue, get medical attention. Keep patient warm and at rest. If symptoms persist, call a physician. If breathing is irregular or stopped, administer artificial respiration.
In case of skin contact	:	Remove contaminated clothing. If irritation develops, get medical attention. In case of contact, immediately flush skin with plenty of water.
In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes. If eye irritation persists, consult a specialist.
If swallowed	:	Move the victim to fresh air. If accidentally swallowed obtain immediate medical attention. Do NOT induce vomiting. Rinse mouth with water. Aspiration hazard if swallowed - can enter lungs and cause damage.
Most important symptoms and effects, both acute and delayed	:	Can be absorbed through skin. Risk of product entering the lungs on vomiting after ingestion. Health injuries may be delayed. Causes skin irritation. May cause an allergic skin reaction. Inhalation may provoke the following symptoms: Unconsciousness Dizziness Drowsiness Headache Nausea Tiredness Allergic appearance Aspiration may cause pulmonary oedema and pneumonitis.
Notes to physician	:	The first aid procedure should be established in consultation with the doctor responsible for industrial medicine. Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not let product enter drains. Container may explode if heated. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Hazardous combustion products	:	Carbon oxides Nitrogen oxides (NOx)
Further information	:	Standard procedure for chemical fires. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Cool containers/tanks with water spray.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. Exposure to decomposition products may be a hazard to health.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Evacuate personnel to safe areas. Use personal protective equipment. Remove all sources of ignition. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials 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). Non-sparking tools should be used.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Keep away from heat and sources of ignition.
Advice on safe handling	:	Use only in an area containing explosion proof equipment. Do not use in areas without adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Avoid exposure - obtain special instructions before use.
For personal protection see section 8.
Keep away from fire, sparks and heated surfaces.
Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Smoking, eating and drinking should be prohibited in the application area.
Wash hands and face before breaks and immediately after handling the product.
Ensure all equipment is electrically grounded before beginning transfer operations.
Do not get in eyes or mouth or on skin.
Do not get on skin or clothing.
Do not use sparking tools.
Do not enter areas where used or stored until adequately ventilated.

Conditions for safe storage : Store in original container.
Keep container closed when not in use.
Keep in a cool place away from oxidizing agents.
Keep in a dry, cool and well-ventilated place.
Do not store together with oxidizing and self-igniting products.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Store in accordance with the particular national regulations.
Keep in properly labelled containers.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
N-methyl-2-pyrrolidone	872-50-4	TWA	15 ppm 60 mg/m3	US WEEL (2021-02-08)
		STEL	30 ppm 120 mg/m3	US WEEL (2021-02-08)
d-limonene	5989-27-5	TWA	30 ppm	US WEEL (2016-08-17)

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
N-methyl-2-pyrrolidone	872-50-4	5-Hydroxy-N-methyl-2-	Urine	End of shift (As	100 mg/l	ACGIH BEI

		pyrrolidone		soon as possible after exposure ceases)		(2010-03-01)

Engineering measures : Use only in an area equipped with explosion proof exhaust ventilation.
Effective exhaust ventilation system

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Hand protection

Remarks : Protective gloves The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case.

Eye protection : Safety glasses with side-shields

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures : Wash face, hands and any exposed skin thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : colourless

Odour : solvent-like

Odour Threshold : No data available

pH	:	No data available
Melting point/range	:	No data available
Boiling point/boiling range	:	352 °F / 178 °C
Flash point	:	122 °F / 50 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	< 2.66 hPa (68 °F / 20 °C)
Relative vapour density	:	No data available
Relative density	:	0.97 (68 °F / 20 °C)
Bulk density	:	No data available
Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	< 20.5 mm2/s (104 °F / 40 °C)
Explosive properties	:	Not explosive

Oxidizing properties	:	No data available
Sublimation point	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No hazards to be specially mentioned.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Heat, flames and sparks. Strong sunlight for prolonged periods.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate: 2,941 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Remarks: Irritating to respiratory system. Symptoms: Inhalation may provoke the following symptoms:, Local irritation, Respiratory disorders
Acute dermal toxicity	:	Symptoms: Redness, Local irritation

Components:

N-methyl-2-pyrrolidone:

Acute oral toxicity	:	LD50 Oral (Rat): > 2,000 mg/kg

d-limonene:

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg
Acute dermal toxicity	:	LD50 Dermal (Rabbit): > 5,000 mg/kg

Skin corrosion/irritation

Product:

Remarks : Irritating to skin.

Components:

N-methyl-2-pyrrolidone:

Species : Rabbit
Result : Skin irritation

d-limonene:

Result : Skin irritation

Serious eye damage/eye irritation

Product:

Remarks : Irritating to eyes.

Components:

N-methyl-2-pyrrolidone:

Species : Rabbit
Result : Eye irritation

Respiratory or skin sensitisation

Product:

Remarks : This information is not available.

Components:

d-limonene:

Result : Probability or evidence of low to moderate skin sensitisation rate in humans

Germ cell mutagenicity

Product:

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

Carcinogenicity

Product:

Remarks : No data available

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

IARC
OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Product:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

Components:

N-methyl-2-pyrrolidone:

Reproductive toxicity - Assessment : - Fertility -

Clear evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments

STOT - single exposure

Components:

N-methyl-2-pyrrolidone:

Assessment : May cause respiratory irritation.

Repeated dose toxicity

Product:

Remarks : This information is not available.

Aspiration toxicity

Product:

May be fatal if swallowed and enters airways.

Components:

d-limonene:

May be fatal if swallowed and enters airways.

Further information

Product:

Remarks : Ingestion causes irritation of upper respiratory system and gastrointestinal disturbance.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : Remarks: No data available

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available

Toxicity to algae/aquatic plants : Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

Components:

N-methyl-2-pyrrolidone:

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

d-limonene:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 0.72 mg/l
Exposure time: 96 h
Test Type: flow-through test
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): 0.307 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants	:	NOEC (Pseudokirchneriella subcapitata (green algae)): 0.174 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	1
M-Factor (Chronic aquatic toxicity)	:	1

Persistence and degradability

Product:

Biodegradability	:	Remarks: No data available
Physico-chemical removability	:	Remarks: No data available

Components:

N-methyl-2-pyrrolidone:

Biodegradability	:	Remarks: No data available

d-limonene:

Biodegradability	:	Result: rapidly biodegradable Method: OECD Test Guideline 301

Bioaccumulative potential

Product:

Bioaccumulation	:	Remarks: This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT). This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).

Components:

N-methyl-2-pyrrolidone:

Bioaccumulation	:	Remarks: No data available
Partition coefficient: n-	:	log Pow: -0.46

octanol/water

d-limonene:

Bioaccumulation : Bioconcentration factor (BCF): 690.1

Partition coefficient: n-octanol/water : log Pow: 4.38

Mobility in soil

Product:

Mobility : Remarks: No data available

Distribution among environmental compartments : Remarks: No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No information on ecology is available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.

Contaminated packaging : Packaging that is not properly emptied must be disposed of as the unused product.
Dispose of waste product or used containers according to local regulations.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 1993
Proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (N-methyl-2-pyrrolidone, (R)-p-mentha-1,8-diene)
Class	:	3
Packing group	:	III
Labels	:	3

IATA-DGR

UN/ID No.	:	UN 1993
Proper shipping name	:	Flammable liquid, n.o.s. (N-methyl-2-pyrrolidone, (R)-p-mentha-1,8-diene)
Class	:	3
Packing group	:	III
Labels	:	Flammable Liquids
Packing instruction (cargo aircraft)	:	366
Packing instruction (passenger aircraft)	:	355

IMDG-Code

UN number	:	UN 1993
Proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (N-methyl-2-pyrrolidone, (R)-p-mentha-1,8-diene)
Class	:	3
Packing group	:	III
Labels	:	3
EmS Code	:	F-E, S-E
Marine pollutant	:	yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

49 CFR

UN/ID/NA number	:	UN 1993
Proper shipping name	:	Flammable liquids, n.o.s. (N-methyl-2-pyrrolidone, (R)-p-mentha-1,8-diene)
Class	:	3
Packing group	:	III
Labels	:	FLAMMABLE LIQUID
ERG Code	:	128
Marine pollutant	:	yes

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
Respiratory or skin sensitisation
Reproductive toxicity
Aspiration hazard
Skin corrosion or irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

N-methyl-2-pyrrolidone	872-50-4	>= 50 - < 70 %

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

California Prop. 65

WARNING: This product can expose you to chemicals including N-methyl-2-pyrrolidone, Methanol, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

The components of this product are reported in the following inventories:

TSCA : All substances listed as active on the TSCA inventory

TSCA list

No substances are subject to a Significant New Use Rule.

The following substance(s) is/are subject to TSCA 12(b) export notification requirements:

N-methyl-2-pyrrolidone	872-50-4

SECTION 16. OTHER INFORMATION

Further information

Full text of other abbreviations

ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
US WEEL : USA. Workplace Environmental Exposure Levels (WEEL)

US WEEL / TWA : 8-hr TWA
US WEEL / STEL : Short-Term TWA

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 02/08/2023

the required safety measures; it is neither an assurance of characteristics nor a guarantee of the product's suitability for particular applications and does not justify any contractual legal relationship. The existence of a safety data sheet for a particular jurisdiction does not necessarily mean that import or use within that jurisdiction is legally permitted. If you have any questions, please contact your responsible sales contact or authorized trading partner.