

Nitromethane

SECTION 1. IDENTIFICATION

Product Identifier	Nitromethane
Other Means of Identification	NM, Nitrocarbol
Product Code(s)	NI9550
Product Family	Organic solution
Recommended Use	Raw material for industry. Fuel.
Restrictions on Use	None known.
Supplier Identifier	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
Emergency Phone No.	CANUTEC CANADA, 613-996-6666, 24 Hours
SDS No.	1102

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Classification

Flammable liquid - Category 3; Acute toxicity (Oral) - Category 4; Acute toxicity (Inhalation) - Category 3; Carcinogenicity - Category 2

Label Elements



Signal Word:
Danger

Hazard Statement(s):

Flammable liquid and vapour.
Harmful if swallowed.
Toxic if inhaled.
Suspected of causing cancer.

Precautionary Statement(s):

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
Keep container tightly closed.
Ground and bond container and receiving equipment.
Use only non-sparking tools.

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Take precautionary measures against static discharge.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash hands and skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.

IF ON SKIN: Wash with plenty of water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Storage:

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

Store locked up.

Disposal:

Dispose of contents and container in accordance with local, regional, national and international regulations.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance:

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Nitromethane	75-52-5	> 95	NM, Nitrocarbol	

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor.

Skin Contact

Rinse with lukewarm, gently flowing water for 5 minutes. Immediately call a Poison Centre or doctor.

Eye Contact

Rinse the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice or attention.

Ingestion

Rinse mouth with water. Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Immediately call a Poison Centre or doctor.

First-aid Comments

Consult a doctor and/or the nearest Poison Control Centre for all exposures except minor instances of inhalation or skin contact.

All first aid procedures should be periodically reviewed by a doctor familiar with the material or its conditions of use in the workplace.

Most Important Symptoms and Effects, Acute and Delayed

If inhaled: may cause cancer.

Immediate Medical Attention and Special Treatment

Special Instructions

General advice, consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

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Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog. Special "alcohol resistant fire-fighting foams".

Unsuitable Extinguishing Media

DO NOT use dry chemical extinguishers containing sodium or potassium bicarbonates. Alkaline bicarbonates appear to extinguish the fire when first applied, but later contribute to reignition.

Specific Hazards Arising from the Product

Flammable and dangerously reactive liquid. Can release vapours that form explosive mixtures with air at, or above, 35 deg C. Can be ignited by static discharge. May travel a considerable distance to a source of ignition and flash back to a leak or open container. Heating increases the release of toxic vapour.

In a fire, the following hazardous materials may be generated: very toxic carbon monoxide, carbon dioxide; corrosive, oxidizing nitrogen oxides.

Special Protective Equipment and Precautions for Fire-fighters

Use extreme caution. Fight fire from a protected, explosion-resistant location or maximum distance possible. Approach fire from upwind to avoid hazardous vapours or gases. Use water spray to dilute spills to non-flammable mixtures. Use water spray to flush spills away from ignition sources. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles.

Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Eliminate all ignition sources. Use grounded, explosion-proof equipment. Notify government occupational health and safety and environmental authorities.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Stop or reduce leak if safe to do so. Contain and soak up spill with absorbent that does not react with spilled product. Use non-combustible absorbent materials such as vermiculite, earth or sand to contain spilled product. Contaminated absorbent poses the same hazard as the spilled product. Place used absorbent into suitable, covered, labelled containers for disposal. Flush spill area. Dike and recover contaminated water for appropriate disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Obtain special instructions before use. Wear personal protective equipment to avoid direct contact with this chemical. Do not breathe in this product. Only use where there is adequate ventilation. Avoid release to the environment. Eliminate heat and ignition sources such as sparks, open flames, hot surfaces and static discharge. Post "No Smoking" signs. In the event of a spill or leak, exit the area immediately. Prevent accidental contact with incompatible chemicals. Never return unused or contaminated product to its original container. Keep containers tightly closed when not in use or empty. Wash hands thoroughly after handling this material.

Conditions for Safe Storage

Store in an area that is: cool, dry, well-ventilated, out of direct sunlight and away from heat and ignition sources, separate from incompatible materials (see Section 10: Stability and Reactivity), clear of combustible and flammable materials (e.g. old rags, cardboard). Electrically bond and ground containers. Ground clips must contact bare metal. Keep amount in storage to a minimum. Store in a closed container.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Nitromethane	20 ppm A3		100 ppm			

A3 = Animal carcinogen.

Appropriate Engineering Controls

Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored. Exhaust directly to the outside, taking any necessary precautions for environmental protection.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Suitable materials are: butyl rubber, Viton®/butyl rubber, Barrier® (PE/PA/PE), Silver Shield®, Trelchem® HPS, Trelchem® VPS, Tychem® Responder® CSM, Tychem® TK, Tychem® Reflector.

The following materials should NOT be used: natural rubber, neoprene rubber, nitrile rubber, polyvinyl chloride, Viton®.

Respiratory Protection

Wear a NIOSH approved powered air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Clear colourless liquid.
Odour	Not available
Odour Threshold	Not available
pH	6.4 (0.01 M solution)
Melting Point/Freezing Point	-29 °C (-20 °F) (melting); -29 °C (-20 °F) (freezing)
Initial Boiling Point/Range	101.2 °C (214.2 °F)
Flash Point	35.0 - 35.6 °C (95.0 - 96.1 °F)
Evaporation Rate	1.39 (n-butyl acetate = 1)
Flammability (solid, gas)	Not available
Upper/Lower Flammability or Explosive Limit	Not available (upper); 7.3% (lower)
Vapour Pressure	3.64 kPa (27.30 mm Hg) at 20 °C
Vapour Density (air = 1)	2.11
Relative Density (water = 1)	1.127 at 25 °C
Solubility	Soluble in water; Soluble in all proportions in common organic solvents.
Partition Coefficient, n-Octanol/Water (Log Kow)	0.35
Auto-ignition Temperature	418 °C (784 °F)
Decomposition Temperature	Not available
Viscosity	0.57 mm ² /s at 20 °C (kinematic); 0.647 mPa.s at 20 °C (dynamic)
Other Information	
Physical State	Liquid
Molecular Weight	61.04

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SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

Decomposes violently in the presence of heat. May cause an explosion.

Conditions to Avoid

Open flames, sparks, static discharge, heat and other ignition sources. Incompatible materials.

Incompatible Materials

Strong acids (e.g. hydrochloric acid), strong oxidizing agents (e.g. perchloric acid), strong reducing agents (e.g. hydrides), strong bases (e.g. sodium hydroxide), amines (e.g. triethylamine).

Hazardous Decomposition Products

Very toxic carbon monoxide, carbon dioxide; corrosive, oxidizing nitrogen oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; eye contact.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Nitromethane	Not available	940 mg/kg (rat)	> 2000 mg/kg (rabbit)

Skin Corrosion/Irritation

Not a skin irritant.

Serious Eye Damage/Irritation

Animal tests show mild irritation.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

No information was located.

Ingestion

Nitromethane is not expected to be very toxic, based on animal toxicity values.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

No information was located.

Respiratory and/or Skin Sensitization

No information was located for respiratory sensitization. Not known to be a skin sensitizer.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Nitromethane	Group 2B	A3	Reasonably anticipated	Not Listed

Group 2B – Possibly carcinogenic to humans. A3 – Confirmed animal carcinogen.

Reproductive Toxicity

Development of Offspring

No information was located.

Sexual Function and Fertility

No information was located.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

No information was located.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Bury in a licensed landfill or burn in an approved incinerator according to federal, provincial/state, and local regulations.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	UN1261	NITROMETHANE	3	II
Canadian TDG	UN1261	NITROMETHANE	3	II

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Listed on the DSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

Listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

NFPA Rating	Health - 2	Flammability - 3	Instability - 4
SDS Prepared By	Alphachem Limited		
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References

CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).

Disclaimer

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