SAFETY DATA SHEET

1. Identification

**Product Name**: Nitromethane

**Cat No.**:
- AC424010000; AC424010010; AC424010025; AC424015000

**Synonyms**
- NM; Nitrocarbol; NMT

**Recommended Use**
- Laboratory chemicals.

**Uses advised against**
- No Information available

**Details of the supplier of the safety data sheet**

**Company**
- Fisher Scientific
- One Reagent Lane
- Fair Lawn, NJ 07410
- Tel: (201) 796-7100

**Entity / Business Name**
- Acros Organics
- One Reagent Lane
- Fair Lawn, NJ 07410

**Emergency Telephone Number**
- For information US call: 001-800-ACROS-01
- / Europe call: +32 14 57 52 11
- Emergency Number US: 001-201-796-7100 / Europe: +32 14 57 52 99
- CHEMTREC Tel. No.US: 001-800-424-9300 / Europe: 001-703-527-3887

2. Hazard(s) identification

**Classification**
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazardous Property</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids</td>
<td>Category 3</td>
</tr>
<tr>
<td>Acute oral toxicity</td>
<td>Category 4</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Category 2</td>
</tr>
</tbody>
</table>

**Label Elements**

**Signal Word**
- Warning

**Hazard Statements**
- Flammable liquid and vapor
- Harmful if swallowed
- Suspected of causing cancer

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**Precautionary Statements**
**Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Use personal protective equipment as required  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
Keep container tightly closed  
Ground/bond container and receiving equipment  
Use explosion-proof electrical/ventilating/lighting/equipment  
Use only non-sparking tools  
Take precautionary measures against static discharge

**Response**

IF exposed or concerned: Get medical attention/advice  
Skin  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
Ingestion  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth  
Fire  
In case of fire: Use CO2, dry chemical, or foam for extinction  
Storage  
Store locked up  
Store in a well-ventilated place. Keep cool  
Disposal  
Dispose of contents/container to an approved waste disposal plant  
**Hazards not otherwise classified (HNOC)**  
Risk of explosion if heated under confinement

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**3. Composition / information on ingredients**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitromethane</td>
<td>75-52-5</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

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**4. First-aid measures**

**Eye Contact**

Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Do not rub affected area.

**Skin Contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. In the case of skin irritation or allergic reactions see a physician.

**Inhalation**

Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Obtain medical attention.

**Ingestion**

Do not induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. Call a physician immediately. Aspiration hazard. If possible drink milk afterwards.

**Most important symptoms/effects**

Breathing difficulties. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

**Notes to Physician**

Treat symptomatically

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**5. Fire-fighting measures**

**Suitable Extinguishing Media**

Dike fire-control water for later disposal. Water spray. Carbon dioxide (CO2). Foam. Dry chemical. Use water spray to cool unopened containers. chemical foam. water fog.
Nitromethane

Unsuitable Extinguishing Media  
No information available

Flash Point  
35 °C / 95 °F

Method -  
No information available

Autoignition Temperature  
418 °C / 784.4 °F

Explosion Limits
Upper  
62%
Lower  
7.3%

Sensitivity to Mechanical Impact  
No information available

Sensitivity to Static Discharge  
No information available

Specific Hazards Arising from the Chemical
Flammable. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated.

Hazardous Combustion Products
Nitrogen oxides (NOx) Carbon monoxide (CO) Carbon dioxide (CO₂)

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.

NFPA

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>N/A</td>
</tr>
</tbody>
</table>

6. Accidental release measures

Personal Precautions  
Ensure adequate ventilation. Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions  
See Section 12 for additional ecological information.

Methods for Containment and Clean Up  
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. Handling and storage

Handling  
Avoid contact with skin and eyes. Do not breathe dust. Do not breathe vapors or spray mist. Take precautionary measures against static discharges. Use explosion-proof equipment. Use only non-spark tools.

Storage  
Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat and sources of ignition. Flammables area. Keep under nitrogen.

8. Exposure controls / personal protection

Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitromethane</td>
<td>TWA: 20 ppm</td>
<td>(Vacated) TWA: 100 ppm</td>
<td>IDLH: 750 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Vacated) TWA: 250 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 100 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 250 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>
9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Component</th>
<th>Quebec</th>
<th>Mexico OEL (TWA)</th>
<th>Ontario TWA EV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitromethane</td>
<td>TWA: 100 ppm</td>
<td>TWA: 100 ppm</td>
<td>TWA: 20 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA: 250 mg/m³</td>
<td>TWA: 250 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL: 150 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL: 375 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

**Legend**

- ACGIH - American Conference of Governmental Industrial Hygienists
- OSHA - Occupational Safety and Health Administration
- NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

**Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal Protective Equipment**

- **Eye/face Protection**
  Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

- **Skin and body protection**
  Wear appropriate protective gloves and clothing to prevent skin exposure.

- **Respiratory Protection**
  Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**Physical State**

- Liquid

**Appearance**

- Colorless

**Odor**

- Sweet

**Odor Threshold**

- No information available

**pH**

- 6.4

**Melting Point/Range**

- -29 °C / -20.2 °F

**Boiling Point/Range**

- 100 - 102 °C / 212 - 215.6 °F

**Flash Point**

- 35 °C / 95 °F

**Evaporation Rate**

- No information available

**Flammability (solid, gas)**

- No information available

**Flammability or explosive limits**

- **Upper**
  - 62%

- **Lower**
  - 7.3%

**Vapor Pressure**

- No information available

**Vapor Density**

- No information available

**Relative Density**

- 1.120

**Solubility**

- 95 g/L @ 20 °C

**Partition coefficient; n-octanol/water**

- No data available

**Autoignition Temperature**

- 418 °C / 784.4 °F

**Decomposition Temperature**

- No information available

**Viscosity**

- No information available

**Molecular Formula**

- C H₃ N O₂

**Molecular Weight**

- 61.04

10. Stability and reactivity

**Reactive Hazard**

- Yes

**Stability**

- Stable under normal conditions. Risk of explosion by shock, friction, fire or other sources of ignition.

**Conditions to Avoid**


**Incompatible Materials**

- Acids, Bases, Strong acids, Amines, Aldehydes, Ketones, Organic acids, lead, Acetone, Metals, copper, Reducing agents
**11. Toxicological information**

**Acute Toxicity**

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral (Rat)</th>
<th>LD50 Dermal (Rabbit)</th>
<th>LC50 Inhalation (Rat) 1 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitromethane</td>
<td>940 mg/kg</td>
<td>&gt;2000 mg/kg</td>
<td>12.75 mg/L</td>
</tr>
</tbody>
</table>

**Toxicologically Synergistic Products**

No information available

**Immediate and delayed effects as well as chronic effects from short and long-term exposure**

**Irritation**

No information available

**Sensitization**

No information available

**Carcinogenicity**

The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitromethane</td>
<td>75-52-5</td>
<td>Group 2B</td>
<td>Reasonably Anticipated</td>
<td>A3</td>
<td>X</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

**Mutagenic Effects**

No information available

**Reproductive Effects**

No information available.

**Developmental Effects**

No information available.

**Teratogenicity**

No information available.

**STOT - single exposure**

None known

**STOT - repeated exposure**

None known

**Aspiration hazard**

No information available

**Symptoms / effects, both acute and delayed**

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

**Endocrine Disruptor Information**

No information available

**Other Adverse Effects**

See actual entry in RTECS for complete information.

**12. Ecological information**

**Ecotoxicity**

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitromethane</td>
<td>36 mg/L EC50 = 72 h</td>
<td>278 mg/L LC50 96 h</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

**Persistence and Degradability**

No information available

**Bioaccumulation / Accumulation**

No information available.

**Mobility**

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
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</thead>
<tbody>
<tr>
<td>Nitromethane</td>
<td>0.17</td>
</tr>
</tbody>
</table>
13. Disposal considerations

Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN1261</th>
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</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>NITROMETHANE</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>3</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
</tr>
</tbody>
</table>

TDG

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN1261</th>
</tr>
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<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>NITROMETHANE</td>
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<tr>
<td>Hazard Class</td>
<td>3</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
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</tbody>
</table>

IATA

<table>
<thead>
<tr>
<th>UN-No</th>
<th>1261</th>
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<tbody>
<tr>
<td>Proper Shipping Name</td>
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<td>Hazard Class</td>
<td>3</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
</tr>
</tbody>
</table>

IMDG/IMO

<table>
<thead>
<tr>
<th>UN-No</th>
<th>1261</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>NITROMETHANE</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>3</td>
</tr>
<tr>
<td>Packing Group</td>
<td>II</td>
</tr>
</tbody>
</table>

15. Regulatory information

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitromethane</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>200-876-6</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(8)).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313 Not applicable

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitromethane</td>
<td>75-52-5</td>
<td>&gt;95</td>
<td>0.1</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazardous Categorization

Acute Health Hazard Yes
Nitromethane

Chronic Health Hazard: Yes
Fire Hazard: Yes
Sudden Release of Pressure Hazard: No
Reactive Hazard: Yes

Clean Water Act: Not applicable
Clean Air Act: Not applicable
OSHA Occupational Safety and Health Administration: Not applicable

<table>
<thead>
<tr>
<th>Component</th>
<th>Specifically Regulated Chemicals</th>
<th>Highly Hazardous Chemicals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitromethane</td>
<td>-</td>
<td>TQ: 2500 lb</td>
</tr>
</tbody>
</table>

CERCLA: Not applicable

California Proposition 65: This product contains the following Proposition 65 chemicals:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>California Prop. 65</th>
<th>Prop 65 NSRL</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitromethane</td>
<td>75-52-5</td>
<td>Carcinogen</td>
<td>39 µg/day</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

State Right-to-Know:

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitromethane</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. Department of Transportation

Reportable Quantity (RQ): N
DOT Marine Pollutant: N
DOT Severe Marine Pollutant: N

U.S. Department of Homeland Security

This product contains the following DHS chemicals:

<table>
<thead>
<tr>
<th>Component</th>
<th>DHS Chemical Facility Anti-Terrorism Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitromethane</td>
<td>2000 lb STQ</td>
</tr>
</tbody>
</table>

Other International Regulations

Mexico - Grade: No information available

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class

- B2 Flammable liquid
- D1B Toxic materials
- D2A Very toxic materials
- B6 Reactive flammable material

16. Other information

Prepared By: Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date 24-Aug-2009
Revision Date 11-Nov-2014
Print Date 11-Nov-2014
Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Disclaimer
The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of SDS