

## SAFETY DATA SHEET

Preparation Date: 8/7/2015

Revision Date: 8/7/2015

Revision Number: G1

### 1. IDENTIFICATION

**Product identifier**

**Product code:** D2040  
**Product Name:** DIMETHYL METHYLPHOSPHONATE

**Other means of identification**

**Synonyms:** Phosphonic acid, methyl- dimethyl ester  
 DMMP  
 Dimethanephosphonate  
 Fyrol DMMP  
 Methanephosphonic acid, dimethyl ester  
 Methyl phosphonic acid, dimethyl ester

**CAS #:** 756-79-6  
**RTECS #** SZ9120000  
**CI#:** Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** In flame-retardant products. Metal extraction. Solvent separation. Gasoline additive. Antifoam agent. Plasticizer. Stabilizer. Textile conditioner and antistatic agent. in hydraulic brake fluids and deicing solutions.

**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
 14422 South San Pedro St.  
 Gardena, CA 90248  
 (310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>

**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Martin LaBenz (West Coast)  
**Contact Person:** Ibad Tirmiz (East Coast)

### 2. HAZARDS IDENTIFICATION

**Classification**

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

Serious eye damage/eye irritation	Category 2B
Flammable liquids	Category 4

**Label elements**

<p><b>Warning</b></p> <p><b>Hazard statements</b>  Causes eye irritation  Combustible liquid</p>
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**Hazards not otherwise classified (HNOC)**

Not Applicable

**Other hazards**

Not available

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Keep away from heat/sparks/open flames/hot surfaces. — No smoking  
Wear protective gloves/protective clothing/eye protection/face protection

In case of fire: Use CO2, dry chemical, or foam to extinguish.  
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.

**Precautionary Statements - Storage**

Store in a well-ventilated place. Keep cool

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Components	CAS-No.	Weight %	Trade Secret
Dimethyl Methylphosphonate 756-79-6	756-79-6	100	*

**4. FIRST AID MEASURES**

**First aid measures**

**General Advice:**

Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126)

**Skin Contact:**

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops. Consult a physician if necessary.

**Eye Contact:**

Flush eye with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

**Inhalation:**

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:**

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

**Most important symptoms and effects, both acute and delayed**

**Symptoms**

Causes eye irritation. May cause skin irritation. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea. May affect the bladder. May affect the urinary system. It may affect the kidneys. May affect behavior/central nervous system. Ataxia. Somnolence. Weakness.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician:**

Treat symptomatically

**Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

**5. FIRE-FIGHTING MEASURES**

**Extinguishing Media**

**Suitable Extinguishing Media:**

Dry chemical. Carbon dioxide (CO2). Water, spray, mist, or foam. .

**Unsuitable Extinguishing Media:**

Do not use a solid (straight) water stream as it may scatter and spread fire.

**Specific hazards arising from the chemical**

**Hazardous Combustion Products:**

Carbon Oxides, Phosphorous oxides

**Specific hazards:**

Combustible material  
May be ignited by heat, sparks or flames  
Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks)  
Container explosion may occur under fire conditions or when heated  
Fire may produce irritating, corrosive and/or toxic gases

**Special Protective Actions for Firefighters**

**Specific Methods:**

Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.

**Special Protective Equipment for Firefighters:**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions:** Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

### Methods and material for containment and cleaning up

**Methods for containment** Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up** Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### **Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Remove all sources of ignition. Keep away from incompatible materials.

#### **Safe Handling Advice**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Do not ingest. Do not smoke. Use only in well-ventilated areas. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

#### **Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from heat and sources of ignition. Store away from incompatible materials.

#### **Incompatible Materials:**

Oxidizing agents.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### **National occupational exposure limits**

##### **United States**

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Dimethyl Methylphosphonate 756-79-6	None	None	None	None

##### **Canada**

Components	Alberta	British Columbia	Ontario	Quebec
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Dimethyl Methylphosphonate 756-79-6	None	None	None	None
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### Australia and Mexico

Components	Australia	Mexico
Dimethyl Methylphosphonate 756-79-6	None	None

### Appropriate engineering controls

**Engineering measures to reduce exposure:** Ensure adequate ventilation, especially in confined areas. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

### Individual protection measures, such as personal protective equipment

#### Personal Protective Equipment

- Eye protection:** Goggles
- Skin and body protection:** Chemical resistant apron. Long sleeved clothing. Gloves.
- Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Hygiene measures:** Avoid contact with the skin and the eyes. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Physical state:</b> Liquid	<b>Appearance:</b> No information available	<b>Color:</b> Clear. Colorless.
<b>Odor:</b> Characteristic.	<b>Taste</b> No information available	<b>Molecular/Formula weight:</b> 124.08 g/mol
<b>Formula:</b> C3H9O3P	<b>Flammability:</b> Combustible liquid	<b>Flash point (°C):</b> 69°C
<b>Flashpoint (°C/°F):</b> 69°C/156°F	<b>Flash Point Tested according to:</b> Closed cup	<b>Autoignition Temperature (°C/°F):</b> 370°C/698°F
<b>Lower Explosion Limit (%):</b> No information available	<b>Upper Explosion Limit (%):</b> No information available	<b>pH:</b> No information available
<b>Melting point/range(°C/°F):</b> 62°C/144°F	<b>Boiling point/range(°C/°F):</b> 181°C/358°F	<b>Bulk density:</b> No information available
<b>Decomposition temperature(°C/°F):</b> No information available	<b>Density (g/cm3):</b> 1.145	<b>Specific gravity:</b> No information available
<b>Vapor pressure @ 20°C (kPa):</b> No information available	<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available
<b>VOC content (g/L):</b> No information available	<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> No information available
<b>Viscosity:</b> No information available	<b>Miscibility:</b> Miscible with alcohol Miscible with Ether Miscible with Benzene Miscible with Acetone Miscible with Carbon tetrachloride	<b>Solubility:</b> Soluble in Water Soluble in Ethanol Soluble in diethyl ether Insoluble in mineral oil

## 10. STABILITY AND REACTIVITY

### Reactivity

Reactive with oxidizing agents

### Chemical stability

#### **Stability:**

Stable under recommended storage conditions

#### **Possibility of Hazardous Reactions:**

Hazardous polymerization does not occur

#### **Conditions to avoid:**

Heat. Ignition sources. Incompatible materials.

#### **Incompatible Materials:**

Oxidizing agents.

#### **Hazardous decomposition products:**

Carbon oxides. Phosphorus oxides.

### Other Information

#### **Corrosivity:**

No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

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### Information on likely routes of exposure

#### Principal Routes of Exposure:

Ingestion. Inhalation.

### Acute Toxicity

#### Component Information

*Dimethyl Methylphosphonate - 756-79-6*

**LD50/oral/rat** = 8210 mg/kg Oral LD50 Rat

**LD50/oral/mouse** = >6810 mg/kg oral LD50 mouse

**LD50/dermal/rat** = No information available

**LD50/dermal/rabbit** = > 2000 mg/kg dermal LD50 rabbit

**LC50/inhalation/rat** = >36100 mg/m<sup>3</sup> inhalation LC50 rat 1h

20.13 mg/L inhalation (vapors) LC50 rat 1hr

**LC50/inhalation/mouse** = No information available

**Other LD50 or LC50 information** = 3998 mg/kg oral LD50 chicken

#### Product Information

**LD50/oral/rat** =

VALUE- Acute Tox Oral = 8210mg/kg

**LD50/oral/mouse** =

Value - Acute Tox Oral = 6810mg/kg

**LD50/dermal/rabbit**

VALUE-Acute Tox Dermal = 2000mg/kg

**LD50/dermal/rat**

VALUE -Acute Tox Dermal = No information available

**LC50/inhalation/rat**

VALUE-Vapor = 20.13mg/l (1-hr)

VALUE-Gas = No information available

VALUE-Dust/Mist = No information available

**LC50/Inhalation/mouse**

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

### Symptoms

**Skin Contact:** Mild skin irritation.

**Eye Contact:** Causes eye irritation.

**Inhalation** May cause irritation of the respiratory tract and mucous membranes irritation. Not expected to be an inhalation hazard. Symptoms may include coughing, burning sensation in throat and lungs. May cause dyspnea (difficulty breathing or shortness of breath).

**Ingestion** Expected low hazard. . May cause digestive (gastrointestinal) tract irritation with nausea, vomiting, diarrhea. Not expected to be a health hazard. May affect behavior/central nervous system (ataxia, somnolence, muscle weakness).

**Product code:** D2040

**Product name:** DIMETHYL  
METHYLPHOSPHONATE

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**Aspiration hazard** No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Chronic Toxicity** Prolonged or repeated ingestion may cause gastritis. Prolonged or repeated ingestion may affect the kidneys (acute renal failure, acute tubular necrosis). Prolonged or repeated ingestion may affect the liver.

**Sensitization:** No information available

**Mutagenic Effects:** No information available

**Carcinogenic effects:** May cause cancer based on animal test data. Tumorigenic agent by RTECS criteria.

Components	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Dimethyl Methylphosphonate	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

**Reproductive toxicity** No data is available

**Reproductive Effects:** Experiments have shown reproductive toxicity effects (lower testicular and prostate weights, and reduced number of spermatozoa) in male rats

**Developmental Effects:** No information available

**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available

**STOT - repeated exposure** No information available

**Target Organs:** Kidneys. Bladder. Urinary Tract.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** No data available.

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available

**Mobility:** No information available

**13. DISPOSAL CONSIDERATIONS**

**Disposal Methods**

### 13. DISPOSAL CONSIDERATIONS

**Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Dimethyl Methylphosphonate	None	None	None	None

### 14. TRANSPORT INFORMATION

**DOT**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** None  
**ERG No:** No information available  
**Marine Pollutant:** No data available  
**DOT RQ (lbs):** No information available

**TDG (Canada)**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Description:** No information available

**ADR**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Packing Group:** No information available  
**Subsidiary Risk:** No information available  
**Classification Code:** No information available  
**Description:** No information available  
**CEFIC Tremcard No:** No information available

**IMO / IMDG**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Description:** No information available  
**IMDG Page:** No information available  
**Marine Pollutant:** No information available  
**MFAG:** No information available  
**Maximum Quantity:** No information available

**RID**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available

## 14. TRANSPORT INFORMATION

**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Classification Code:** No information available  
**Description:** No information available

### ICAO

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Description:** No information available

### IATA

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Description:** No information available

## 15. REGULATORY INFORMATION

### International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Dimethyl Methylphosphonate</i>	Present	Present KE-11543	Present	Present (2)-1961	Present	Present	Present 212-052-3

### U.S. Regulations

#### California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

##### Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

##### Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
<i>Dimethyl Methylphosphonate</i>	Not Listed	Not Listed	Not Listed	Not Listed

### CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
<i>Dimethyl Methylphosphonate</i>	None	None	None	None	None

### U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Dimethyl Methylphosphonate	Not Applicable	Not Applicable

## Canada

### WHMIS hazard class:

Non-controlled

### Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

## Inventory

Components	Canada (DSL)	Canada (NDSL)
Dimethyl Methylphosphonate	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Dimethyl Methylphosphonate	Not listed	Not listed

## EU Classification

### R-phrase(s)

### S -phrase(s)

none

Components	Classification	Concentration Limits:	Safety Phrases
Dimethyl Methylphosphonate		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

### Indication of danger:

Xn - Harmful.



## 16. OTHER INFORMATION

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**Preparation Date:** 87/2015  
**Revision Date:** 8/7/2015  
**Prepared by:** Sonia Owen

**Disclaimer:**

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**