

Material Safety Data Sheet

Dimethyl phosphite (Pract), 98% (Titr.)

ACC# 14364

Section 1 - Chemical Product and Company Identification

MSDS Name: Dimethyl phosphite (Pract), 98% (Titr.)

Catalog Numbers: AC408530000, AC408530010, AC408532500

Synonyms: Bis(hydroxymethyl)phosphine oxide; Dimethoxyphosphine oxide; Dimethyl acid phosphite; Dimethylphosphonate; Dimethyl hydrogen phosphite; Phosphonic acid, dimethyl ester.

Company Identification:

Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
868-85-9	Dimethyl hydrogen phosphite	98	212-783-8
756-79-6	Dimethyl methylphosphonate	1	212-052-3
67-56-1	Methyl alcohol	0.5	200-659-6
512-56-1	Trimethylphosphate	0.5	208-144-8

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless liquid. Flash Point: 54 deg C.

Warning! Flammable liquid and vapor. Causes eye, skin, and respiratory tract irritation.

Target Organs: Respiratory system, eyes, skin.

Potential Health Effects

Eye: Causes eye irritation.

Skin: Causes skin irritation.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Ingestion of large amounts may cause CNS depression.

Inhalation: Causes respiratory tract irritation.

Chronic: Effects may be delayed.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. Flammable liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam.

Flash Point: 54 deg C (129.20 deg F)

Autoignition Temperature: Not available.

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 2; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling: Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Avoid breathing vapor or mist.

Storage: Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Store protected from moisture.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Dimethyl hydrogen phosphite	none listed	none listed	none listed
Dimethyl methylphosphonate	none listed	none listed	none listed
Methyl alcohol	200 ppm TWA; 250 ppm STEL; Skin - potential significant contribution to overall exposure by the cutaneous route	200 ppm TWA; 260 mg/m ³ TWA 6000 ppm IDLH	200 ppm TWA; 260 mg/m ³ TWA
Trimethylphosphate	none listed	none listed	none listed

OSHA Vacated PELs: Dimethyl hydrogen phosphite: No OSHA Vacated PELs are listed for this chemical. Dimethyl methylphosphonate: No OSHA Vacated PELs are listed for this chemical. Methyl alcohol: 200 ppm TWA; 260 mg/m³ TWA Trimethylphosphate: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: colorless

Odor: mild odor

pH: Not available.

Vapor Pressure: 4.52 mm Hg @ 25 deg C

Vapor Density: 3.79 (air=1)

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 170.5 deg C @ 760 mm Hg

Freezing/Melting Point: Not available.

Decomposition Temperature: Not available.

Solubility: Soluble.

Specific Gravity/Density: 1.2 g/ml

Molecular Formula: C₂H₇O₃P

Molecular Weight: 110.05

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Ignition sources, moisture, excess heat.

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, strong bases, acid chlorides.

Hazardous Decomposition Products: Phosphine, carbon monoxide, oxides of phosphorus, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:

CAS# 868-85-9: SZ7710000

CAS# 756-79-6: SZ9120000

CAS# 67-56-1: PC1400000

CAS# 512-56-1: TC8225000

LD50/LC50:

CAS# 868-85-9:

Draize test, rabbit, eye: 20 mg/24H Moderate;
Draize test, rabbit, skin: 500 mg/24H Mild;
Inhalation, rat: LC50 = >20 gm/m³;
Oral, mouse: LD50 = 1831 mg/kg;
Oral, rat: LD50 = 3040 mg/kg;
Skin, rabbit: LD50 = 681 mg/kg;

CAS# 756-79-6:

Oral, mouse: LD50 = >6810 mg/kg;
Oral, rat: LD50 = 8210 mg/kg;

CAS# 67-56-1:

Draize test, rabbit, eye: 40 mg Moderate;
Draize test, rabbit, eye: 100 mg/24H Moderate;
Draize test, rabbit, skin: 20 mg/24H Moderate;
Inhalation, rabbit: LC50 = 81000 mg/m³/14H;
Inhalation, rat: LC50 = 64000 ppm/4H;
Oral, mouse: LD50 = 7300 mg/kg;
Oral, rabbit: LD50 = 14200 mg/kg;
Oral, rat: LD50 = 5600 mg/kg;
Skin, rabbit: LD50 = 15800 mg/kg;

CAS# 512-56-1:

Oral, mouse: LD50 = 1470 mg/kg;
Oral, rabbit: LD50 = 1275 mg/kg;
Oral, rat: LD50 = 840 mg/kg;
Skin, rabbit: LD50 = 2830 uL/kg;

Carcinogenicity:

CAS# 868-85-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 756-79-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 67-56-1: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 512-56-1:

- **ACGIH:** Not listed.
- **California:** carcinogen, initial date 5/1/96
- **NTP:** Not listed.
- **IARC:** Not listed.

Epidemiology: No information found

Teratogenicity: No information found

Reproductive Effects: No information found

Mutagenicity: No information found

Neurotoxicity: No information found

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series:

CAS# 67-56-1: waste number U154 (Ignitable waste).

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	Flammable Liquid, N.O.S.	Flammable Liquid, N.O.S.
Hazard Class:	3	3
UN Number:	UN1993	UN1993
Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 868-85-9 is listed on the TSCA inventory.
CAS# 756-79-6 is listed on the TSCA inventory.
CAS# 67-56-1 is listed on the TSCA inventory.
CAS# 512-56-1 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

CAS# 67-56-1: 5000 lb final RQ; 2270 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 67-56-1: immediate, fire.

Section 313

Methyl alcohol is not at a high enough concentration to be reportable under Section 313. No chemicals are reportable under Section 313.

Clean Air Act:

CAS# 67-56-1 is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 868-85-9 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 756-79-6 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 67-56-1 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 512-56-1 can be found on the following state right to know lists: Massachusetts.

California Prop 65

WARNING: This product contains Trimethylphosphate, a chemical known to the state of California to cause cancer.

California No Significant Risk Level: CAS# 512-56-1: 24 æg/day NSRL

European/International Regulations**European Labeling in Accordance with EC Directives****Hazard Symbols:**

XI

Risk Phrases:

R 10 Flammable.

R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 24/25 Avoid contact with skin and eyes.

S 33 Take precautionary measures against static discharges.

S 37 Wear suitable gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 9 Keep container in a well-ventilated place.

S 28A After contact with skin, wash immediately with plenty of water

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WGK (Water Danger/Protection)

CAS# 868-85-9: 1

CAS# 756-79-6: 1

CAS# 67-56-1: 1

CAS# 512-56-1: 1

Canada - DSL/NDSL

CAS# 756-79-6 is listed on Canada's DSL List.

CAS# 67-56-1 is listed on Canada's DSL List.

CAS# 512-56-1 is listed on Canada's DSL List.

CAS# 868-85-9 is listed on Canada's NDSL List.

Canada - WHMIS

This product has a WHMIS classification of B3, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 67-56-1 is listed on the Canadian Ingredient Disclosure List.

CAS# 512-56-1 is listed on the Canadian Ingredient Disclosure List.

MSDS Creation Date: 7/01/1999

Revision #3 Date: 10/05/2004

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