

Material Safety Data Sheet

According to OSHA and ANSI

Printing date 03/14/2011

Reviewed on 03/10/2011

1 Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name: Diethyl methylphosphonite

Stock number: 30357

CAS Number:
15715-41-0

EINECS Number:
239-805-9

Relevant identified uses of the substance or mixture and uses advised against.

Sector of Use SU24 Scientific research and development

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar, A Johnson Matthey Company
Johnson Matthey Catalog Company, Inc.
30 Bond Street

Ward Hill, MA 01835-8099
Emergency Phone: (978) 521-6300
CHEMTREC: (800) 424-9300
Web Site: www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency telephone number:

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

2 Hazards identification

Classification of the substance or mixture



GHS02 Flame

H226 Flammable liquid and vapour.



GHS06 Skull and crossbones

H300 Fatal if swallowed.

H310 Fatal in contact with skin.

H330 Fatal if inhaled.



GHS07

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



T; Toxic

R23/24/25: Toxic by inhalation, in contact with skin and if swallowed.



Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

R10: Flammable.

Information concerning particular hazards for human and environment: Not applicable

Label elements

Labelling according to EU guidelines:

Code letter and hazard designation of product:

T Toxic

Risk phrases:

10 Flammable.

23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

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

Safety phrases:

4 Keep away from living quarters.

9 Keep container in a well-ventilated place.

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- 20 When using do not eat or drink.
 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 27 Take off immediately all contaminated clothing.
 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
 43 In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.
 45 In case of accident or if you feel unwell, seek medical advice immediately.
 60 This material and its container must be disposed of as hazardous waste.

Hazard description:**WHMIS classification**

B2 - Flammable liquid

D1A - Very toxic material causing immediate and serious toxic effects

D2B - Toxic material causing other toxic effects

**Classification system**

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH	3	Health (acute effects) = 3
FIRE	2	Flammability = 2
REACTIVITY	1	Reactivity = 1

Other hazards**Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances**(CAS#) Description:**

Diethyl methylphosphonite (CAS# 15715-41-0)

Identification number(s):

EINECS Number: 239-805-9

4 First aid measures

Description of first aid measures**General information**

Immediately remove any clothing soiled by the product.

Remove breathing apparatus only after contaminated clothing has been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing

Do not induce vomiting; immediately call for medical help.

Seek immediate medical advice.

5 Firefighting measures

Extinguishing media**Suitable extinguishing agents**

In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.

For safety reasons unsuitable extinguishing agents Water**Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Carbon monoxide and carbon dioxide

Phosphorus oxides

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Advice for firefighters**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Environmental precautions:

Do not allow material to be released to the environment without proper governmental permits.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

Keep away from ignition sources.

Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage**Handling****Precautions for safe handling**

Handle under dry protective gas.

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Open and handle container with care.

Information about protection against explosions and fires:

Keep ignition sources away.

Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

Conditions for safe storage, including any incompatibilities**Storage****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:**

Store away from air.

Store away from water/moisture.

Store away from oxidizing agents.

Further information about storage conditions:

Store under dry inert gas.

This product is moisture sensitive.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Protect from humidity and water.

This product is air sensitive.

8 Exposure controls/personal protection**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters**Components with limit values that require monitoring at the workplace:** Not required.**Additional information:** No data**Exposure controls****Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

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Breathing equipment: Use suitable respirator when high concentrations are present.

Protection of hands:

Impervious gloves

Check protective gloves prior to each use for their proper condition.

Material of gloves

The selection of suitable gloves not only depends on the material, but also on quality.

Quality will vary from manufacturer to manufacturer.

Eye protection: Safety glasses

Body protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Liquid
Color:	Colorless
Odor:	Strong
Odour threshold:	Not determined.

pH-value:	Not determined.
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Change in condition

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	118-120°C (244-248 °F)
Sublimation temperature / start:	Not determined

Flash point:	28°C (82 °F)
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Flammability (solid, gaseous)	Not applicable.
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Ignition temperature:	40°C (104 °F)
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Decomposition temperature:	Not determined
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Auto igniting:	Not determined.
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Explosion limits:

Lower:	Not determined
Upper:	Not determined

Vapor pressure:	Not determined
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Density at 20°C (68 °F):	0.871 g/cm ³ (7.268 lbs/gal)
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Relative density	Not determined.
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Vapour density	Not determined.
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Evaporation rate	Not determined.
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Segregation coefficient (n-octanol/water):	Not determined.
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Viscosity:

dynamic:	Not determined.
kinematic:	Not determined.

Other information	No further relevant information available.
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10 Stability and reactivity

Reactivity

Chemical stability

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions No dangerous reactions known

Incompatible materials:

Air

Water/moisture

Oxidizing agents

Hazardous decomposition products:

Carbon monoxide and carbon dioxide

Phosphorus oxides (e.g. P2O5)

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11 Toxicological information

Information on toxicological effects

Acute toxicity:

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Subacute to chronic toxicity:

Organic phosphorus compounds exhibit a wide range of toxicity. Most are skin and eye irritants with the more volatile also being respiratory irritants. Those exhibiting substantial water reactivity will have stronger irritating properties and may be corrosive enough to cause severe burns. Some organic phosphorus compounds are cholinesterase inhibitors. Symptoms associated with these include muscle twitching, convulsions, flaccid paralysis, coma, respiratory failure. They can be highly paralytic.

Additional toxicological information:

Danger through skin absorption.

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Behavior in environmental systems:

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

Additional ecological information:

General notes:

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Do not allow material to be released to the environment without proper governmental permits.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods

Recommendation Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

DOT regulations:



Hazard class:

6.1

Identification number:

UN3279

Packing group:

II

Proper shipping name (technical name): ORGANOPHOSPHORUS COMPOUND, TOXIC, FLAMMABLE, N.O.S. (Diethyl methylphosphonite)

Label

6.1+3

Land transport ADR/RID (cross-border)



ADR/RID class:

6.1 (TF1) Toxic substances

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Danger code (Kemler):	63
UN-Number:	3279
Packaging group:	II
UN proper shipping name:	3279 ORGANOPHOSPHORUS COMPOUND, TOXIC, FLAMMABLE, N.O.S. (Diethyl methylphosphonite)

Maritime transport IMDG:

IMDG Class:	6.1
UN Number:	3279
Label	6.1+3
Packaging group:	II
Marine pollutant:	No
Proper shipping name:	ORGANOPHOSPHORUS COMPOUND, TOXIC, FLAMMABLE, N.O.S. (Diethyl methylphosphonite)

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class:	6.1
UN/ID Number:	3279
Label	6.1+3
Packaging group:	II
Proper shipping name:	ORGANOPHOSPHORUS COMPOUND, TOXIC, FLAMMABLE, N.O.S. (Diethyl methylphosphonite)

UN "Model Regulation":

UN3279, ORGANOPHOSPHORUS COMPOUND, TOXIC, FLAMMABLE, N.O.S., 6.1 (3), II

Special precautions for user Warning: Toxic substances**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.**15 Regulatory information**

Safety, health and environmental regulations/legislation specific for the substance or mixture

Product related hazard informations:**Hazard symbols:**

T Toxic

Risk phrases:

10 Flammable.
 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
 36/37/38 Irritating to eyes, respiratory system and skin.

Safety phrases:

4 Keep away from living quarters.
 9 Keep container in a well-ventilated place.
 20 When using do not eat or drink.
 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
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 45 In case of accident or if you feel unwell, seek medical advice immediately.
 60 This material and its container must be disposed of as hazardous waste.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Non-Domestic Substances List (NDSL).

Information about limitation of use: For use only by technically qualified individuals.

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16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing MSDS: Health, Safety and Environmental Department.**Contact:**

Zachariah C. Holt
Global EHS Manager

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)

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