

SAFETY DATA SHEET

according to the OSHA
Hazard Communication Standard

Version 6.9
Revision Date 07/30/2026
Print Date 07/31/2026

SECTION 1. IDENTIFICATION

1.1 Product identifiers

Product name : Parathion-methyl-d6 (dimethyl-d6)

Product Number : 94093
Brand : Sigma-Aldrich
CAS-No. : 96740-32-8

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

Identified uses : Laboratory chemicals, Synthesis of substances

Restrictions on use : Not Available

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
SPRUCE ST 3050
63103 St. Louis

Telephone : (314) 771-5765
Telefax: (800) 325-5052

1.4 Emergency telephone number

Emergency Phone # : 800 424 9300 (CHEMTREC) 24/7
+1 703 527 3887 (CHEMTREC) 24/7

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazards for the product as supplied

Flammable liquids : Category 3

Acute toxicity (Oral) : Category 2

Acute toxicity (Inhalation) : Category 2

Acute toxicity (Dermal) : Category 3

Specific target organ toxicity - repeated exposure : Category 2

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

Other hazards

None known.

GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.
H300 + H330 Fatal if swallowed or if inhaled.
H311 Toxic in contact with skin.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.

P284 Wear respiratory protection.

Response:

P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Immediately call a POISON CENTER/ doctor.

P314 Get medical advice/ attention if you feel unwell.

P362 Take off contaminated clothing and wash before reuse.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

P391 Collect spillage.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

CAS-No. : 96740-32-8

Components

Chemical name	CAS No./Unique ID	Concentration (% w/w)	Trade secret
Parathion-methyl-d6 (dimethyl-d6)	96740-32-8*	>= 90 - <= 100	-

* Indicates that the identifier is a CAS No.

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : First aiders need to protect themselves.
Show this safety data sheet to the doctor in attendance.

If inhaled : After inhalation: fresh air. Immediately call in

physician.

If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

- In case of skin contact : In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.
- In case of eye contact : After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.
- If swallowed : If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.
- Most important symptoms and effects, both acute and delayed : The most important known symptoms and effects are described in the labelling (see section 2 GHS label elements) and/or in section 11
- Protection of first-aiders : For personal protection see section 8.
- Notes to physician : No data available

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water
Foam
Carbon dioxide (CO₂)
Dry powder
- Unsuitable extinguishing media : For this substance/mixture no limitations of extinguishing agents are given.
- Specific hazards during fire fighting : Combustible.

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air at elevated temperatures.

Development of hazardous combustion gases or vapours possible in the event of fire.

Hazardous combustion products	: Carbon oxides Nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus
Specific extinguishing methods	: No data available
Further information	: Remove container from danger zone and cool with water. Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Special protective equipment for fire-fighters	: Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	: Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: Wear appropriate personal protective equipment, as indicated in Section 8.
Environmental precautions	: Do not let product enter drains. Risk of explosion.
Methods and materials	: Cover drains. Collect, bind, and pump off spills.

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for containment and cleaning up

Observe possible material restrictions (see sections 7 and 10).
Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

SECTION 7. HANDLING AND STORAGE

For precautions see section 2 GHS label elements

- Advice on protection against fire and explosion : Keep away from open flames, hot surfaces and sources of ignition.
Take precautionary measures against static discharge.
- Advice on safe handling : Work under hood. Do not inhale substance/mixture.
Avoid generation of vapours/aerosols.
- Conditions for safe storage : Store under argon.
- Further information on storage conditions : Keep container tightly closed in a dry and well-ventilated place.
Keep away from heat and sources of ignition.
Keep locked up or in an area accessible only to qualified or authorised persons.
- Storage class : 3, Flammable liquids
- Recommended storage temperature : Recommended storage temperature see product label.
- Further information on storage stability : Hygroscopic.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Parathion-methyl-d6 (dimethyl-d6)	96740-32-8	TWA (Inhalable fraction and vapor)	0.02 mg/m ³	ACGIH
		TWA	0.2 mg/m ³	NIOSH REL

Biological occupational exposure limits

Components	CAS-No.	Control parameter s	Biological specimen	Sampling time	Permissible concentration	Basis
Parathion-methyl-d6 (dimethyl-d6)	96740-32-8	Acetylcholinesterase activity	In red blood cells	End of shift	70 % of an individual's baseline	ACGIH BEI
		Butyrylcholinesterase activity	In serum or plasma	End of shift	60 % of an individual's baseline	ACGIH BEI

Engineering measures : No data available

Personal protective equipment

Respiratory protection : required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: : Filter type ABEK

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Hand protection

Remarks : required

Eye protection : Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Safety glasses

Skin and body protection : Flame retardant antistatic protective clothing.

Hygiene measures : Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: powder
Colour	: white
Odour	: No data available
Odour Threshold	: No data available
pH	: No data available
Melting point	: No data available
Boiling point/boiling range	: ca. 246 °F / 119 °C (0.1 hPa)
Flash point	: 115 °F / 46 °C (1,013 hPa) Method: open cup
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Flammability (liquids)	: No data available
Burning rate	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapour pressure	: ca. < 0.001 hPa (68 °F / 20 °C)
Relative vapour density	: No data available
Relative density	: No data available
Density	: ca. 1.360 g/cm ³ (68 °F / 20 °C)
Water solubility	: No data available
Partition coefficient: n- octanol/water	: log Pow: ca. 2.8 Bioaccumulation is not expected.
Autoignition temperature	: No data available
Decomposition	: No data available

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temperature

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Flow time : No data available

Explosive properties : No data available

Oxidizing properties : none

Molecular weight : 269.24 g/mol

Particle characteristics

Particle size : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Vapour/air-mixtures are explosive at intense warming.

Chemical stability : The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions : Violent reactions possible with:
Strong oxidizing agents

Conditions to avoid : Heating.

Incompatible materials : No data available

Hazardous decomposition products : For Hazardous combustion products in the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 6.01 mg/kg

Remarks: (RTECS)

The value is given in analogy to the following substances: Parathion - methyl

Acute toxicity estimate Inhalation - 4 h - 0.51 mg/l - vapour

(Expert judgement)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

The value is given in analogy to the following substances: Parathion - methyl

LD50 Dermal - Rabbit - 300 mg/kg

Remarks: (RTECS)

The value is given in analogy to the following substances: Parathion - methyl

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Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Result: Positive results were obtained in some in vitro tests.

Remarks: (Lit.)

The value is given in analogy to the following substances: Parathion - methyl
Test Type: Ames test

Test system: Escherichia coli

Metabolic activation: with and without metabolic activation

Result: negative

Remarks: (Lit.)

The value is given in analogy to the following substances: Parathion - methyl
Test Type: Chromosome aberration test in vitro

Test system: mammalian cells

Result: positive

Remarks: (Lit.)

The value is given in analogy to the following substances: Parathion - methyl

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Species: Mouse

Cell type: Bone marrow

Application Route: Oral

Result: positive

Remarks: (Lit.)

The value is given in analogy to the following substances: Parathion - methyl

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

The value is given in analogy to the following substances: Parathion - methyl

Aspiration hazard

No data available

11.2 Additional Information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****Parathion-methyl-d6 (dimethyl-d6):**

Toxicity to fish	: LC50 (Morone saxatilis (Striped bass)): 0.79 mg/l Exposure time: 96 h Test Type: flow-through test Method: US-EPA Remarks: The value is given in analogy to the following substances: The value is given in analogy to the following substances: Parathion - methyl
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 0.0087 mg/l Exposure time: 48 h Test Type: flow-through test Method: US-EPA Remarks: The value is given in analogy to the following substances: The value is given in analogy to the following substances: Parathion - methyl
Toxicity to algae/aquatic plants	: ErC50 (Desmodesmus subspicatus (green algae)): 15 mg/l Exposure time: 72 h Test Type: static test Remarks: (ECOTOX Database) The value is given in analogy to the following substances: The value is given in analogy to the following substances: Parathion - methyl
M-Factor (Acute aquatic toxicity)	: 100
Toxicity to fish (Chronic toxicity)	: NOEC (Cyprinodon variegatus (sheepshead minnow)): 0.00019 mg/l Exposure time: 28 d Test Type: flow-through test Method: US-EPA

Remarks: The value is given in analogy to the following substances:

The value is given in analogy to the following substances: Parathion - methyl

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

: NOEC (Daphnia magna (Water flea)): 0.16 mg/l

Exposure time: 21 d

Test Type: static test

Method: US-EPA

Remarks: The value is given in analogy to the following substances:

The value is given in analogy to the following substances: Parathion - methyl

NOEC (Ceriodaphnia dubia (water flea)): 0.001 mg/l

Exposure time: 7 d

Remarks: (ECOTOX Database)

The value is given in analogy to the following substances:

The value is given in analogy to the following substances: Parathion - methyl

M-Factor (Chronic aquatic toxicity) : 100

Persistence and degradability

No data available

Bioaccumulative potential

Components:

Parathion-methyl-d6 (dimethyl-d6):

Bioaccumulation

: Species: Oncorhynchus mykiss (rainbow trout)

Bioconcentration factor (BCF): 26,268.00

Exposure time: 14 d

Concentration: 64.1 µg/l

Remarks: The value is given in analogy to the following substances:

The value is given in analogy to the following substances: Parathion - methyl

Partition coefficient: n-octanol/water

: log Pow: ca. 2.8

Remarks: Bioaccumulation is not expected.

Mobility in soil

No data available

Other adverse effects

No data available

Endocrine disrupting properties

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No. : UN 2929
Proper shipping name : Toxic liquid, flammable, organic, n.o.s.
(Parathion-methyl-d6 (dimethyl-d6))
Class : 6.1
Subsidiary risk : 3
Packing group : II
Labels : Division 6.1 - Toxic substances, Class 3 - Flammable liquids
Packing instruction (cargo : 662
aircraft)
Packing instruction : 654
(passenger aircraft)

IMDG-Code

UN number : UN 2929
Proper shipping name : TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S.
(Parathion-methyl-d6 (dimethyl-d6))
Class : 6.1
Subsidiary risk : 3
Packing group : II
Labels : 6.1 (3)
EmS Code : F-E, S-D
Marine pollutant : yes

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

National Regulations

49 CFR

UN/ID/NA number : UN 2929
Proper shipping name : Toxic liquids, flammable, organic, n.o.s.
(Parathion-methyl-d6 (dimethyl-d6))
Class : 6.1
Subsidiary risk : 3

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Packing group : II
 Labels : Division 6.1 - Toxic substances, Class 3 - Flammable liquids
 ERG Code : 131
 Marine pollutant : yes
 Poison Inhalation Hazard : No

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Parathion-methyl-d6 (dimethyl-d6)	96740-32-8	100	100

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Parathion-methyl-d6 (dimethyl-d6)	96740-32-8	100	100

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

Components	CAS-No.	Component TPQ (lbs)
Parathion-methyl-d6 (dimethyl-d6)	96740-32-8	10000

SARA 311/312 Hazards : Acute Health Hazard

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Parathion-methyl-d6 (dimethyl-d6)	96740-32-8	>= 90 - <= 100 %
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US State Regulations

Massachusetts Right To Know

Parathion-methyl-d6 (dimethyl-d6)	96740-32-8
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Pennsylvania Right To Know

Parathion-methyl-d6 (dimethyl-d6)	96740-32-8
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Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

The components of this product are reported in the following inventories:

US TSCA : Product contains substance(s) not listed on TSCA inventory.

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
NIOSH REL : USA. NIOSH Recommended Exposure Limits
ACGIH / TWA : 8-hour, time-weighted average
NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent,

Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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Details in analogy to the undeuterated compound.

Revision Date : 07/30/2026

US / EN