

Safety Data Sheet

acc. to OSHA HCS

Revision date 08/23/2024

1 Identification

- **Product identifier**
- **Product Name:** Phthalates Standard (1X1 mL)
- **Part number:** PSM-506-1
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies, Inc.
5301 Stevens Creek Blvd.
Santa Clara, CA 95051 USA
- **Information department:**
Telephone: 800-227-9770
e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: 1-800-424-9300

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids 2

H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Carcinogenicity 2

H351 Suspected of causing cancer.

Toxic to Reproduction 1B

H360 May damage fertility or the unborn child.

Aspiration Hazard 1

H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irritation 2

H315 Causes skin irritation.

Specific Target Organ Toxicity - Single Exposure 3 H336 May cause drowsiness or dizziness.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02



GHS07



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

2,2,4-trimethylpentane

BBP

di-(2-ethylhexyl) phthalate

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dibutyl phthalate

Hazard statements

H225 Highly flammable liquid and vapor.

H315 Causes skin irritation.

H351 Suspected of causing cancer.

H360 May damage fertility or the unborn child.

H336 May cause drowsiness or dizziness.

H304 May be fatal if swallowed and enters airways.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P240 Ground/bond container and receiving equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P301+P310 If swallowed: Immediately call a poison center/doctor.

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

P321 Specific treatment (see on this label).

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

P312 Call a poison center/doctor if you feel unwell.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P331 Do NOT induce vomiting.

P370+P378 In case of fire: Use CO₂, powder or water spray to extinguish.

P362+P364 Take off contaminated clothing and wash it before reuse.

P405 Store locked up.

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

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

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:
NFPA ratings (scale 0 - 4)


Health = 1

Fire = 3

Reactivity = 0

HMIS-ratings (scale 0 - 4)


Health = 1

Fire = 3

Reactivity = 0

Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.

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3 Composition/information on ingredients· **Chemical characterization:** Mixtures· **Description:** Mixture of the substances listed below with nonhazardous additions.· **Dangerous components:**

540-84-1	2,2,4-trimethylpentane	98.9885%
84-74-2	dibutyl phthalate	0.1445%
85-68-7	BBP	0.1445%
117-81-7	di-(2-ethylhexyl) phthalate	0.1445%
117-84-0	dioctyl phthalate	0.1445%

4 First-aid measures· **Description of first aid measures**· **General information:** Immediately remove any clothing soiled by the product.· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.· **After eye contact:** Rinse opened eye for several minutes under running water.· **After swallowing:** If symptoms persist consult doctor.· **Information for doctor:**· **Most important symptoms and effects, both acute and delayed** No further relevant information available.· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures· **Extinguishing media**· **Suitable extinguishing agents:**CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.· **For safety reasons unsuitable extinguishing agents:** Water with full jet· **Special hazards arising from the substance or mixture** No further relevant information available.· **Advice for firefighters**· **Protective equipment:** No special measures required.**6 Accidental release measures**· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.· **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 section 13.

Ensure adequate ventilation.

· **Reference to other sections**

See Section 7 for information on safe handling.

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See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· Protective Action Criteria for Chemicals
· PAC-1:

540-84-1	2,2,4-trimethylpentane	230 ppm
84-66-2	diethyl phthalate	15 mg/m ³
84-74-2	dibutyl phthalate	15 mg/m ³
85-68-7	BBP	15 mg/m ³
103-23-1	Di-(2-ethylhexyl) adipate	17 mg/m ³
117-81-7	di-(2-ethylhexyl) phthalate	10 mg/m ³
117-84-0	dioctyl phthalate	41 mg/m ³
131-11-3	dimethyl phthalate	15 mg/m ³

· PAC-2:

540-84-1	2,2,4-trimethylpentane	830 ppm
84-66-2	diethyl phthalate	31 ppm
84-74-2	dibutyl phthalate	1,600 mg/m ³
85-68-7	BBP	77 mg/m ³
103-23-1	Di-(2-ethylhexyl) adipate	300 mg/m ³
117-81-7	di-(2-ethylhexyl) phthalate	1,000 mg/m ³
117-84-0	dioctyl phthalate	450 mg/m ³
131-11-3	dimethyl phthalate	1,600 mg/m ³

· PAC-3:

540-84-1	2,2,4-trimethylpentane	5000* ppm
84-66-2	diethyl phthalate	190 ppm
84-74-2	dibutyl phthalate	9300* mg/m ³
85-68-7	BBP	460 mg/m ³
103-23-1	Di-(2-ethylhexyl) adipate	1800 mg/m ³
117-81-7	di-(2-ethylhexyl) phthalate	6,100 mg/m ³
117-84-0	dioctyl phthalate	11000* mg/m ³
131-11-3	dimethyl phthalate	9300* mg/m ³

7 Handling and storage

· Handling:
· Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

· Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

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- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

540-84-1 2,2,4-trimethylpentane

TLV Long-term value: 300 ppm

84-74-2 dibutyl phthalate

PEL Long-term value: 5 mg/m³

REL Long-term value: 5 mg/m³

TLV Long-term value: 5 mg/m³

117-81-7 di-(2-ethylhexyl) phthalate

PEL Long-term value: 5 mg/m³

REL Short-term value: 10 mg/m³

Long-term value: 5 mg/m³

See Pocket Guide App. A

TLV Long-term value: 0.1 mg/m³

Skin, A3

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

- **Breathing equipment:**

When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.

Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge.

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· Protection of hands:

Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.

· Material of gloves

For normal use: nitrile rubber, 11-13 mil thickness

For direct contact with the chemical: butyl rubber, 12-15 mil thickness

· Penetration time of glove material

For normal use: nitrile rubber: 1 hour

For direct contact with the chemical: butyl rubber: >4 hours

· Eye protection:


Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties
· General Information
· Appearance:

Form: Fluid

Color: Colorless

· Odor: Nearly odorless

· Odor threshold: Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range: -107 °C (-160.6 °F)

Boiling point/Boiling range: 99 °C (210.2 °F)

· Flash point: -12 °C (10.4 °F)

· Flammability (solid, gaseous): Highly flammable.

· Auto igniting: 410 °C (770 °F)

· Decomposition temperature: Not determined.

· Ignition temperature: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits:

Lower: 1.1 Vol %

Upper: 6 Vol %

· Vapor pressure at 20 °C (68 °F): 41.25 hPa (30.9 mm Hg)

· Density at 20 °C (68 °F): 0.69564 g/cm³ (5.80512 lbs/gal)

· Relative density Not determined.

· Vapor density Not determined.

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· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic at 20 °C (68 °F):	0.51 mPas
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	99.0 %
VOC content:	98.99 %
	688.6 g/l / 5.75 lb/gal
Solids content:	0.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**
ATE (Acute Toxicity Estimate)

Inhalative LC50/4 h >4,637 mg/L (rat)

540-84-1 2,2,4-trimethylpentane

Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	>33.52 mg/L (rat)

84-74-2 dibutyl phthalate

Oral	LD50	6,300 mg/kg (rat)
Dermal	LD50	>4,000 mg/kg (rabbit)
Inhalative	LC50/4 h	15.68 mg/L (rat)

85-68-7 BBP

Oral	LD50	2,330 mg/kg (rat)
Dermal	LD50	6,700 mg/kg (rabbit)

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Inhalative	LC50/4 h	>6.7 mg/L (rat)
117-81-7 di-(2-ethylhexyl) phthalate		
Oral	LD50	>20,000 mg/kg (rat)
Dermal	LD50	4,000 mg/kg (rat) 25,000 mg/kg (rabbit)
117-84-0 dioctyl phthalate		
Oral	LD50	47,000 mg/kg (rat)

· **Primary irritant effect:**

· **on the skin:** Irritant to skin and mucous membranes.

· **on the eye:** No irritating effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

85-68-7	BBP	3
103-23-1	Di-(2-ethylhexyl) adipate	3
117-81-7	di-(2-ethylhexyl) phthalate	2B

· **NTP (National Toxicology Program)**

117-81-7	di-(2-ethylhexyl) phthalate	R
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· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

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:**

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

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13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· Not Regulated, De minimis Quantities	-
· UN-Number · DOT, IMDG, IATA	UN1262
· UN proper shipping name · DOT · IMDG · IATA	Octanes OCTANES, MARINE POLLUTANT OCTANES
· Transport hazard class(es) · DOT	
	
· Class · Label	3 Flammable liquids 3
· IMDG	
 	
· Class · Label	3 Flammable liquids 3
· IATA	
	
· Class · Label	3 Flammable liquids 3
· Packing group · DOT, IMDG, IATA	II
· Environmental hazards:	Product contains environmentally hazardous substances: 2,2,4-trimethylpentane

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· Marine pollutant:	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids
· Hazard identification number (Kemler code):	33
· EMS Number:	F-E,S-E
· Stowage Category	B
· Transport in bulk according to Annex II of MARPOL/73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1262 OCTANES, 3, II, ENVIRONMENTALLY HAZARDOUS

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15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

· **Sara**· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

84-74-2	dibutyl phthalate
117-81-7	di-(2-ethylhexyl) phthalate
131-11-3	dimethyl phthalate

· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

540-84-1	2,2,4-trimethylpentane
84-74-2	dibutyl phthalate
117-81-7	di-(2-ethylhexyl) phthalate
131-11-3	dimethyl phthalate

· **Proposition 65**· **Chemicals known to cause cancer:**

117-81-7	di-(2-ethylhexyl) phthalate
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· **Chemicals known to cause reproductive toxicity for females:**

84-74-2	dibutyl phthalate
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· Chemicals known to cause reproductive toxicity for males:

84-74-2	dibutyl phthalate
117-81-7	di-(2-ethylhexyl) phthalate

· Chemicals known to cause developmental toxicity:

84-74-2	dibutyl phthalate
85-68-7	BBP
117-81-7	di-(2-ethylhexyl) phthalate

· Carcinogenic categories
· EPA (Environmental Protection Agency)

540-84-1	2,2,4-trimethylpentane	II
84-66-2	diethyl phthalate	D
84-74-2	dibutyl phthalate	D
85-68-7	BBP	C
103-23-1	Di-(2-ethylhexyl) adipate	C
117-81-7	di-(2-ethylhexyl) phthalate	B2
131-11-3	dimethyl phthalate	D

· TLV (Threshold Limit Value)

84-66-2	diethyl phthalate	A4
117-81-7	di-(2-ethylhexyl) phthalate	A3

· NIOSH-Ca (National Institute for Occupational Safety and Health)

117-81-7	di-(2-ethylhexyl) phthalate
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· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

· Department issuing SDS: Document Control / Regulatory

· Contact: pdl-acg-regulatory-cq@agilent.com

· Date of preparation / last revision 08/23/2024 / 3

· Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

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PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flammable Liquids 2: Flammable liquids – Category 2

Skin Irritation 2: Skin corrosion/irritation – Category 2

Carcinogenicity 2: Carcinogenicity – Category 2

Toxic to Reproduction 1B: Reproductive toxicity – Category 1B

Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

Aspiration Hazard 1: Aspiration hazard – Category 1

· *** Data compared to the previous version altered.**

US