

SAFETY DATA SHEET

EPA Method 525 Test Mix 4 - Low Concentration, Part Number 8500-5937

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

1.1 Product identifier

Product name : EPA Method 525 Test Mix 4 - Low Concentration, Part Number 8500-5937
Part No. : 8500-5937

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

Identified uses
Analytical reagent. 1 x 1 ml.

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation) : CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

H225	FLAMMABLE LIQUIDS - Category 2
H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
H336	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
H412	LONG-TERM AQUATIC HAZARD - Category 3

Classification according to Directive 1999/45/EC [DPD]

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : F; R11
Xi; R36
R66, R67
N; R51/53

Physical/chemical hazards : Highly flammable.

Human health hazards : Irritating to eyes. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

Environmental hazards : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Date of issue/Date of revision : 20/12/2013

SECTION 2: Hazards identification

Hazard pictograms :



Signal word :

Danger

Hazard statements :

H225 - Highly flammable liquid and vapour.
 H319 - Causes serious eye irritation.
 H336 - May cause drowsiness or dizziness.
 H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention :

P280 - Wear protective gloves. Wear eye or face protection.
 P210 - Keep away from heat, sparks, open flames and hot surfaces. - No smoking.
 P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
 P273 - Avoid release to the environment.

Response :

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Storage :

P235 - Keep cool.

Disposal :

P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients :

Acetone

Supplemental label elements :

Not applicable.

Special packaging requirements

Tactile warning of danger :

Not applicable.

2.3 Other hazards

Other hazards which do not result in classification :

Defatting to the skin. Prolonged or repeated contact may dry skin and cause irritation.

SECTION 3: Composition/information on ingredients

Substance/mixture :

Mixture

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
Acetone	EC: 200-662-2 CAS: 67-64-1 Index: 606-001-00-8	>=90	F; R11 Xi; R36 R66, R67	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 (Narcotic effects)	[1] [2]
Pentachlorophenol	EC: 201-778-6 CAS: 87-86-5 Index: 604-002-00-8	<0.1	Carc. Cat. 3; R40 T+; R26 T; R24/25 Xi; R36/37/38 N; R50/53	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 2, H330 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1]
Hexachlorobenzene	EC: 204-273-9 CAS: 118-74-1 Index: 602-065-00-6	<0.1	Carc. Cat. 2; R45 T; R48/25 N; R50/53	Carc. 1B, H350 STOT RE 1, H372 (bones, liver and skin)	[1]

SECTION 3: Composition/information on ingredients

Benzyl butyl phthalate	EC: 201-622-7 CAS: 85-68-7 Index: 607-430-00-3	<0.25	Repr. Cat. 2; R61 Repr. Cat. 3; R62 N; R50/53	Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Eye Irrit. 2, H319 Repr. 1B, H360Df (Unborn child and Fertility) STOT SE 3, H335 (Respiratory tract irritation) Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1]
Dibutyl phthalate	EC: 201-557-4 CAS: 84-74-2 Index: 607-318-00-4	<0.5	Repr. Cat. 2; R61 Repr. Cat. 3; R62 N; R50	Repr. 1B, H360Df (Unborn child and Fertility) Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1]
Hexachlorocyclopentadiene	EC: 201-029-3 CAS: 77-47-4 Index: 602-078-00-7	<0.1	T+; R26 T; R24 Xn; R22 C; R34 N; R50/53 See Section 16 for the full text of the R-phrases declared above.	Acute Tox. 4, H302 Acute Tox. 3, H311 Acute Tox. 2, H330 Skin Corr. 1B, H314 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 See Section 16 for the full text of the H statements declared above.	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Type

- [1] Substance classified with a health or environmental hazard
 [2] Substance with a workplace exposure limit
 [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
 [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
 [5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures**4.1 Description of first aid measures**

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention

SECTION 4: First aid measures

immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed**Potential acute health effects**

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact : Defatting to the skin. May cause skin dryness and irritation.

Ingestion : Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media : Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Highly flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

5.3 Advice for firefighters

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SECTION 5: Firefighting measures

- Special precautions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

- : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

6.3 Methods and materials for containment and cleaning up

- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections

- : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

SECTION 7: Handling and storage

7.2 Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations : Industrial applications, Professional applications.

Industrial sector specific solutions : Not applicable.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters**Occupational exposure limits

Product/ingredient name	Exposure limit values
Acetone	EU OEL (Europe, 12/2009). Notes: list of indicative occupational exposure limit values TWA: 1210 mg/m ³ 8 hours. TWA: 500 ppm 8 hours.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Derived effect levels

No DNELs available.

Predicted effect concentrations

No PNECs available.

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

SECTION 8: Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****Appearance**

- Physical state** : Liquid.
- Colour** : Not available.
- Odour** : Not available.
- Odour threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : -95°C
- Initial boiling point and boiling range** : 56°C
- Flash point** : Closed cup: -18°C
- Evaporation rate** : 6.06 (butyl acetate = 1)
- Flammability (solid, gas)** : Not available.
- Upper/lower flammability or explosive limits** : Lower: 2.2%
Upper: 13%
- Vapour pressure** : Not available.
- Vapour density** : 2 [Air = 1]
- Relative density** : Not available.
- Solubility(ies)** : Easily soluble in the following materials: cold water, hot water and acetone.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not available.
- Explosive properties** : Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : The product is stable.
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
- 10.5 Incompatible materials** : Reactive or incompatible with the following materials:
oxidizing materials
- 10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Acetone	LD50 Oral	Rat	5800 mg/kg	-
Pentachlorophenol	LD50 Dermal	Rabbit	105 mg/kg	-
	LD50 Oral	Rat	77.9 mg/kg	-
Hexachlorobenzene	LD50 Oral	Rat	3500 mg/kg	-
Benzyl butyl phthalate	LD50 Dermal	Rabbit	>10000 mg/kg	-
	LD50 Dermal	Rat	6700 mg/kg	-
	LD50 Oral	Rat	2330 mg/kg	-
Dibutyl phthalate	LC50 Inhalation Dusts and mists	Rat	>15.68 mg/l	4 hours
	LD50 Oral	Rat	3180 mg/kg	-
Hexachlorocyclopentadiene	LC50 Inhalation Gas.	Rat	1600 ppb	4 hours
	LD50 Dermal	Rabbit	430 mg/kg	-
	LD50 Oral	Rat	200 mg/kg	-

Acute toxicity estimates

Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetone	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
Pentachlorophenol	Eyes - Mild irritant	Rabbit	-	24 hours 100 microliters	-
	Skin - Mild irritant	Rabbit	-	24 hours 10 milligrams	-
Hexachlorocyclopentadiene	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	5 minutes 100 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 500 microliters	-
	Skin - Severe irritant	Rabbit	-	4 hours 500 milligrams	-

SECTION 11: Toxicological information**Sensitiser**

Conclusion/Summary : Not available.

Chronic toxicity / Carcinogenicity / Mutagenicity / Teratogenicity / Reproductive toxicity

Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Acetone	Category 3	Not applicable.	Narcotic effects
Pentachlorophenol	Category 3	Not applicable.	Respiratory tract irritation
Benzyl butyl phtalate	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Hexachlorobenzene	Category 1	Not determined	bones, liver and skin

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Ingestion** : Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach.
- Skin contact** : Defatting to the skin. May cause skin dryness and irritation.
- Eye contact** : Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Ingestion** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
dryness
cracking
- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

Delayed and immediate effects and also chronic effects from short and long term exposure**Short term exposure**

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

SECTION 11: Toxicological information

Potential delayed effects : Not available.

Potential chronic health effects

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Acetone	Acute EC50 20.565 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 10000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 100 mg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
Pentachlorophenol	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Acute EC50 20.3 ppb Marine water	Algae - Skeletonema costatum	4 days
	Acute EC50 610 µg/l Fresh water	Aquatic plants - Lemna minor - Exponential growth phase	4 days
	Acute EC50 0.016 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute LC50 190 µg/l Fresh water	Aquatic plants - Lemna minor	72 hours
	Acute LC50 38 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 0.01 mg/l Fresh water	Fish - Oncorhynchus clarkii ssp. stomias	96 hours
	Chronic NOEC 5 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
Hexachlorobenzene	Chronic NOEC 10 µg/l Fresh water	Fish - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling)	28 days
	Acute EC50 10 µg/l Fresh water	Algae - Scenedesmus abundans	96 hours
	Acute LC50 7600 µg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Chronic NOEC 6.7 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 4.76 µg/l Fresh water	Fish - Pimephales promelas - Larvae	32 days
Benzyl butyl phthalate	Acute EC50 0.22 ppm Marine water	Algae - Skeletonema costatum	72 hours
	Acute EC50 100 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 900 µg/l Fresh water	Crustaceans - Americamysis bahia	48 hours
	Acute EC50 0.76 mg/l Fresh water	Daphnia - Daphnia magna	2 days
	Acute LC50 550 µg/l Marine water	Fish - Parophrys vetulus - Young of the year	96 hours
	Chronic NOEC 60 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
Dibutyl phthalate	Chronic NOEC 0.26 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Acute EC50 3.4 µg/l Marine water	Algae - Gymnodinium breve	96 hours
	Acute EC50 2990 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 480 µg/l Fresh water	Fish - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 210 µg/l Fresh water	Algae - Pseudokirchneriella	96 hours

SECTION 12: Ecological information

Hexachlorocyclopentadiene	Chronic NOEC 500 µg/l Fresh water	subcapitata Daphnia - Daphnia magna	21 days
	Chronic NOEC 25 µg/l Fresh water	Fish - Danio rerio - Embryo	5 weeks
	Acute LC50 52.2 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 7 µg/l Fresh water	Fish - Pimephales promelas - Larvae	96 hours
	Chronic NOEC 9 µg/l Fresh water	Daphnia - Daphnia magna	21 days

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Benzyl butyl phthalate	-	99.8 % - Readily - 14 days	-	1 mg/l
Dibutyl phthalate	EU 92/69/EEC	81 % - Readily - 28 days	-	21.7 mg/l Activated sludge

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Benzyl butyl phthalate	-	-	Readily
Dibutyl phthalate	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Acetone	-0.23	-	low
Pentachlorophenol	5.12	457.09	low
Hexachlorobenzene	5.73	21379.62	high
Benzyl butyl phthalate	4.77	1693.25	high
Dibutyl phthalate	4.46	165.96	low
Hexachlorocyclopentadiene	5.04	-	high

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Yes.

European waste catalogue (EWC)

Waste code	Waste designation
07 07 04*	other organic solvents, washing liquids and mother liquors

Packaging

SECTION 13: Disposal considerations

- Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
- Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

Regulatory information

ADR/RID / IMDG / IATA : Not regulated.

Additional information : **Remarks**
De minimis quantities

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Substances of very high concern

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory : All components are listed or exempted.

Black List Chemicals : Not listed

Priority List Chemicals : Not listed

Integrated pollution prevention and control list (IPPC) - Air : Listed

Integrated pollution prevention and control list (IPPC) - Water : Not listed

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
Pentachlorophenol	Carc. 2, H351	-	-	-
Hexachlorobenzene	Carc. 1B, H350	-	-	-
Benzyl butyl phthalate	-	-	Repr. 1B, H360D (Unborn child)	Repr. 2, H361f (Fertility)
Dibutyl phthalate	-	-	Repr. 1B, H360D (Unborn child)	Repr. 2, H361f (Fertility)

15.2 Chemical Safety Assessment : This product contains substances for which Chemical Safety Assessments might still be required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 (Narcotic effects) Aquatic Chronic 3, H412	On basis of test data Calculation method Calculation method Calculation method

Full text of abbreviated H statements : H225 Highly flammable liquid and vapour.
 H301 Toxic if swallowed.
 H302 Harmful if swallowed.
 H311 Toxic in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H330 Fatal if inhaled.
 H335 (Respiratory tract irritation) May cause respiratory irritation. (Respiratory tract irritation)
 H336 (Narcotic effects) May cause drowsiness or dizziness. (Narcotic effects)
 H350 May cause cancer.
 H351 Suspected of causing cancer.
 H360Df (Unborn child and Fertility) May damage the unborn child. Suspected of damaging fertility.
 H372 (bones, liver and skin) Causes damage to organs through prolonged or repeated exposure. (bones, liver and skin)
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.
 H412 Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS] : Acute Tox. 2, H330 ACUTE TOXICITY (inhalation) - Category 2
 Acute Tox. 3, H301 ACUTE TOXICITY (oral) - Category 3
 Acute Tox. 3, H311 ACUTE TOXICITY (dermal) - Category 3
 Acute Tox. 4, H302 ACUTE TOXICITY (oral) - Category 4
 Aquatic Acute 1, H400 ACUTE AQUATIC HAZARD - Category 1
 Aquatic Chronic 1, H410 LONG-TERM AQUATIC HAZARD - Category 1
 Aquatic Chronic 3, H412 LONG-TERM AQUATIC HAZARD - Category 3
 Carc. 1B, H350 CARCINOGENICITY - Category 1B
 Carc. 2, H351 CARCINOGENICITY - Category 2
 Eye Irrit. 2, H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
 Flam. Liq. 2, H225 FLAMMABLE LIQUIDS - Category 2
 Repr. 1B, H360Df (Unborn child and Fertility) TOXIC TO REPRODUCTION (Unborn child and Fertility) - Category 1B
 Skin Corr. 1B, H314 SKIN CORROSION/IRRITATION - Category 1B
 Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2
 Skin Sens. 1, H317 SKIN SENSITIZATION - Category 1
 STOT RE 1, H372 (bones, liver and skin) SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (bones, liver and skin) - Category 1
 STOT SE 3, H335 (Respiratory tract irritation) SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
 STOT SE 3, H336 (Narcotic effects) SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

SECTION 16: Other information

Full text of abbreviated R phrases	: R11- Highly flammable. R45- May cause cancer. R40- Limited evidence of a carcinogenic effect. R61- May cause harm to the unborn child. R62- Possible risk of impaired fertility. R26- Also very toxic by inhalation. R24- Also toxic in contact with skin. R24/25- Also toxic in contact with skin and if swallowed. R48/25- Also toxic: danger of serious damage to health by prolonged exposure if swallowed. R22- Also harmful if swallowed. R34- Causes burns. R36- Irritating to eyes. R36/37/38- Irritating to eyes, respiratory system and skin. R66- Repeated exposure may cause skin dryness or cracking. R67- Vapours may cause drowsiness and dizziness. R50- Very toxic to aquatic organisms. R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Full text of classifications [DSD/DPD]	: F - Highly flammable Carc. Cat. 2 - Carcinogen category 2 Carc. Cat. 3 - Carcinogen category 3 Repr. Cat. 2 - Toxic to reproduction category 2 Repr. Cat. 3 - Toxic to reproduction category 3 T+ - Very toxic T - Toxic C - Corrosive Xn - Harmful Xi - Irritant N - Dangerous for the environment
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