

19.07.2018

**Kit components**

Product code	Description
<b>N9331012</b>	<b>Method 505 kit</b>

Components:

N9331000	Reformulated Organohalide Pesticides Mix for Method 505
N9331001	Toxaphene
N9331002	Chlordane
N9331003	STD Aroclor 1016
N9331004	STD Aroclor 1221
N9331005	Aroclor 1232
N9331006	Aroclor 1242
N9331007	Aroclor 1248
N9331008	Aroclor 1254
N9331009	Aroclor 1260
N9331010	Aroclor 1262
N9331011	Aroclor 1268

**according to WHS Regulations**

Printing date 19.07.2018

Revision: 19.07.2018

Hazardous according to criteria of Australian Safety and Compensation Council.

## 1 Identification

- **Product identifier**
- **Trade name:** Reformulated Organohalide Pesticides Mix for Method 505
- **Article number:** N9331000
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
CustomerCareUS@perkinelmer.com  
203-925-4600

-----  
Supplier/Local:  
-----

PerkinElmer Australia  
Lvl 2, Bldg 5, Brandon Office Park  
530-540 Springvale Road  
Glen Waverley  
Melbourne  
VIC 3150  
Australia  
1-800-033-391  
ausales@perkinelmer.com

- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)  
CHEMTREC (within AU) +(61)-290372994

## \* 2 Hazard(s) Identification

- **Classification of the substance or mixture**



Flam. Liq. 2 H225 Highly flammable liquid and vapour.



Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

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· **Label elements**

· **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms** GHS02, GHS07

· **Signal word** Danger

· **Hazard statements**

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

· **Precautionary statements**

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

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

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

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

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

· **Other hazards**

The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.






· **vPvB:** Not applicable.

### 3 Composition and Information on Ingredients






· **Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

67-64-1	acetone	 Flam. Liq. 2, H225  Eye Irrit. 2A, H319; STOT SE 3, H336	99.7365%
1912-24-9	atrazine (ISO)	 STOT RE 2, H373  Skin Sens. 1, H317	0.125%
122-34-9	simazine (ISO)	 Carc. 2, H351	0.125%

· **Additional Components**

15972-60-8	alachlor (ISO)	 Carc. 2, H351  Acute Tox. 4, H302; Skin Sens. 1, H317	0.005%
72-43-5	methoxychlor		0.0025%
5103-73-1	cis-Nonachlor		0.0005%
60-57-1	dieldrin (ISO)	 Acute Tox. 3, H301; Acute Tox. 1, H310  Carc. 2, H351; STOT RE 1, H372	0.0005%
72-20-8	endrin (ISO)	 Acute Tox. 2, H300; Acute Tox. 3, H311	0.0005%

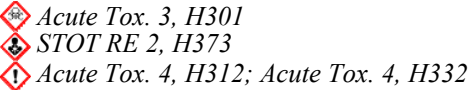

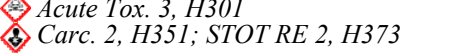

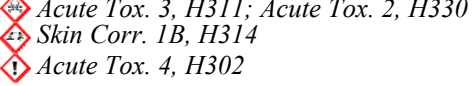
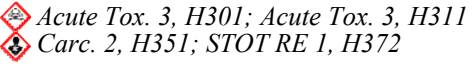
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		(Contd. of page 2)	
5103-74-2	gamma-Chlordane	0.0005%	
58-89-9	γ -HCH or γ -BHC	 Acute Tox. 3, H301 STOT RE 2, H373 Acute Tox. 4, H312; Acute Tox. 4, H332	0.0005%
76-44-8	heptachlor (ISO)	 Acute Tox. 3, H301; Acute Tox. 3, H311 Carc. 2, H351; STOT RE 2, H373	0.0005%
1024-57-3	heptachlor epoxide	 Acute Tox. 3, H301 Carc. 2, H351; STOT RE 2, H373	0.0005%
118-74-1	hexachlorobenzene	 Carc. 1B, H350; STOT RE 1, H372	0.0005%
77-47-4	hexachlorocyclopentadiene	 Acute Tox. 3, H311; Acute Tox. 2, H330 Skin Corr. 1B, H314 Acute Tox. 4, H302	0.0005%
5103-71-9	alpha-Chlordane		0.0005%
309-00-2	aldrin (ISO)	 Acute Tox. 3, H301; Acute Tox. 3, H311 Carc. 2, H351; STOT RE 1, H372	0.0005%
39765-80-5	trans-Nonachlor		0.0005%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

**4 First Aid Measures**

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult 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:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **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:**  
Inform respective authorities in case of seepage into water course or sewage system.

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Prevent seepage into sewage system, workpits and cellars.

Dilute with plenty of water.

**· Methods and material for containment and cleaning up:**

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

Ensure adequate ventilation.

**· 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** Store in cool, dry place in tightly closed receptacles.

**· Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

**· 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:**

Store receptacle in a well ventilated area.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

**· Specific end use(s)** No further relevant information available.

## 8 Exposure controls and personal protection

**· Additional information about design of technical facilities:** No further data; see item 7.

**· Control parameters**

**· Ingredients with limit values that require monitoring at the workplace:**

**67-64-1 acetone**

WES Short-term value: 2375 mg/m<sup>3</sup>, 1000 ppm

Long-term value: 1185 mg/m<sup>3</sup>, 500 ppm

**· Additional information:** The lists valid during the making 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.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

**· Respiratory protection:** Not required.

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**· Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**· Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**· Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**· Eye protection:**



Tightly sealed goggles

**9 Physical and Chemical Properties**

**· Information on basic physical and chemical properties**

**· General Information**

**· Appearance:**

<b>Form:</b>	Liquid
<b>Colour:</b>	Transparent
<b>· Odour:</b>	Characteristic
<b>· Odour threshold:</b>	Not determined.

**· pH-value:** Not determined.

**· Change in condition**

<b>Melting point/freezing point:</b>	94.7 °C
<b>Initial boiling point and boiling range:</b>	55 °C

**· Flash point:** < 0 °C

**· Flammability (solid, gas):** Not applicable.

**· Ignition temperature:** 465 °C

**· Decomposition temperature:** Not determined.

**· Auto-ignition temperature:** Product is not selfigniting.

**· Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

**· Explosion limits:**

<b>Lower:</b>	2.6 Vol %
<b>Upper:</b>	13 Vol %

**· Vapour pressure at 20 °C:** 233 hPa

**· Density at 20 °C:** 1.41 g/cm<sup>3</sup>  
**· Relative density:** Not determined.

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· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with water:</b>	Fully miscible.
· <b>Partition coefficient: n-octanol/water:</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	99.7 %
<b>Solids content:</b>	0.3 %
· <b>Other information</b>	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**

· <b>LD/LC50 values relevant for classification:</b>		
<b>67-64-1 acetone</b>		
Oral	LD50	5,800 mg/kg (rat)
Dermal	LD50	20,000 mg/kg (rabbit)
<b>15972-60-8 alachlor (ISO)</b>		
Oral	LD50	1,200 mg/kg (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** No irritant effect.
- **Serious eye damage/irritation** Irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Irritant

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### 12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour 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 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.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### 14 Transport information

- |   |   |
|---|---|
| · <b>UN-Number</b>  |   |
| · <b>ADG, IMDG, IATA</b>  | UN1993  |
| · <b>UN proper shipping name</b>  |   |
| · <b>ADG</b>  | 1993 FLAMMABLE LIQUID, N.O.S., special provision 640D (ACETONE) |
| · <b>IMDG, IATA</b>   | FLAMMABLE LIQUID, N.O.S. (ACETONE)                              |
| · <b>Transport hazard class(es)</b>   |   |
| · <b>ADG</b>  |   |
|  |   |
| · <b>Class</b>  | 3 (F1) Flammable liquids.                                       |

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· <b>Label</b>	3
· <b>IMDG, IATA</b>	
	
· <b>Class</b>	3 Flammable liquids.
· <b>Label</b>	3
· <b>Packing group</b>	
· <b>ADG, IMDG, IATA</b>	II
· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	
Warning: Flammable liquids.	
· <b>Danger code (Kemler):</b>	
33	
· <b>EMS Number:</b>	
F-E, S-E	
· <b>Stowage Category</b>	
B	
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	
Not applicable.	
· <b>Transport/Additional information:</b>	
· <b>ADG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b>	
2	
· <b>Tunnel restriction code</b>	
D/E	
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	
UN 1993 FLAMMABLE LIQUID, N.O.S., SPECIAL PROVISION 640D (ACETONE), 3, II	

**15 Regulatory information**

· <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>			
67-64-1	acetone	 Flam. Liq. 2, H225  Eye Irrit. 2A, H319; STOT SE 3, H336	99.7365%
1912-24-9	atrazine (ISO)	 STOT RE 2, H373  Skin Sens. 1, H317	0.125%
122-34-9	simazine (ISO)	 Carc. 2, H351	0.125%

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- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category P5c FLAMMABLE LIQUIDS**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **National regulations:**
- **Information about limitation of use:**  
*Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.*
- **Waterhazard class:** *Water hazard class 2 (Self-assessment): hazardous for water.*
- **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## 16 Other information

### Disclaimer

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.

### · Relevant phrases

- H225 Highly flammable liquid and vapour.*
- H300 Fatal if swallowed.*
- H301 Toxic if swallowed.*
- H302 Harmful if swallowed.*
- H310 Fatal in contact with skin.*
- H311 Toxic in contact with skin.*
- H312 Harmful in contact with skin.*
- H314 Causes severe skin burns and eye damage.*
- H317 May cause an allergic skin reaction.*
- H319 Causes serious eye irritation.*
- H330 Fatal if inhaled.*
- H332 Harmful if inhaled.*
- H336 May cause drowsiness or dizziness.*
- H350 May cause cancer.*
- H351 Suspected of causing cancer.*
- H372 Causes damage to organs through prolonged or repeated exposure.*
- H373 May cause damage to organs through prolonged or repeated exposure.*

· **Department issuing SDS:** *Environmental, Health and Safety*

### · Contact:

- Within the USA: 1-(800)-762-4000*
- Outside the USA: 1-(203)-712-8488*

### · Abbreviations and acronyms

*RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*

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ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 2: Carcinogenicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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

AU

**according to WHS Regulations**

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Hazardous according to criteria of Australian Safety and Compensation Council.

## 1 Identification

- **Product identifier**
- **Trade name:** Toxaphene
- **Article number:** N9331001
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
CustomerCareUS@perkinelmer.com  
203-925-4600

-----  
Supplier/Local:  
-----

PerkinElmer Australia  
Lvl 2, Bldg 5, Brandon Office Park  
530-540 Springvale Road  
Glen Waverley  
Melbourne  
VIC 3150  
Australia  
1-800-033-391  
ausales@perkinelmer.com

- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)  
CHEMTREC (within AU) +(61)-290372994

## \* 2 Hazard(s) Identification

- **Classification of the substance or mixture**



Flam. Liq. 2 H225 Highly flammable liquid and vapour.



Repr. 2 H361 Suspected of damaging fertility or the unborn child.  
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

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**Trade name: Toxaphene**

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*Skin Irrit. 2 H315 Causes skin irritation.*

*STOT SE 3 H336 May cause drowsiness or dizziness.*

· **Label elements**

· **GHS label elements**

*The substance is classified and labelled according to the Globally Harmonised System (GHS).*

· **Hazard pictograms** GHS02, GHS07, GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

*n-hexane*

· **Hazard statements**

*H225 Highly flammable liquid and vapour.*

*H315 Causes skin irritation.*

*H361 Suspected of damaging fertility or the unborn child.*

*H336 May cause drowsiness or dizziness.*

*H373 May cause damage to organs through prolonged or repeated exposure.*

· **Precautionary statements**

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

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

*P260 Do not breathe dust/fume/gas/mist/vapours/spray.*

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

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

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

· **Other hazards**

*The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.*

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

**3 Composition and Information on Ingredients**

· **Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

110-54-3	<i>n-hexane</i>	Flam. Liq. 2, H225 Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 Skin Irrit. 2, H315; STOT SE 3, H336	99.98%
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· **Additional Components**

8001-35-2	<i>Toxaphene</i>	Acute Tox. 3, H301 Carc. 2, H351 Acute Tox. 4, H312; Skin Irrit. 2, H315; STOT SE 3, H335	0.02%
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**Trade name: Toxaphene**

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· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

#### 4 First Aid Measures

- **Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **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.
- **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:**  
CO<sub>2</sub>, 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:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Prevent seepage into sewage system, workpits and cellars.
- **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.
- **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** No special precautions are necessary if used correctly.

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**Trade name: Toxaphene**

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- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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 container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls and personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

**110-54-3 n-hexane**

WES | Long-term value: 72 mg/m<sup>3</sup>, 20 ppm

- **Additional information:** The lists valid during the making 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.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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Trade name: Toxaphene

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· Eye protection:



Tightly sealed goggles

## 9 Physical and Chemical Properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:	Liquid
· Colour:	Transparent
· Odour:	Characteristic
· Odour threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

· Melting point/freezing point:	-95 °C
· Initial boiling point and boiling range:	69 °C

· Flash point: < 0 °C

· Flammability (solid, gas): Not applicable.

· Ignition temperature: 240 °C

· Decomposition temperature: Not determined.

· Auto-ignition temperature: Product is not selfigniting.

· Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

· Lower:	1.2 Vol %
· Upper:	7.4 Vol %

· Vapour pressure at 20 °C: 160 hPa

· Density at 20 °C:	0.66 g/cm <sup>3</sup>
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· Solubility in / Miscibility with water at 20 °C: 0.1 g/l

· Partition coefficient: n-octanol/water: Not determined.

· Viscosity:

· Dynamic:	Not determined.
· Kinematic:	Not determined.

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**according to WHS Regulations**

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**Trade name: Toxaphene**

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- **Solvent content:**
- Organic solvents:** 100.0 %
- **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**
- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** No irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Repr. 2

### 12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour 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 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.

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**Trade name: Toxaphene**






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

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**13 Disposal considerations**

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

**14 Transport information**

· <b>UN-Number</b> · <b>ADG, IMDG, IATA</b>	UN1993
· <b>UN proper shipping name</b> · <b>ADG</b> · <b>IMDG</b> · <b>IATA</b>	1993 FLAMMABLE LIQUID, N.O.S., special provision 640D (HEXANES), ENVIRONMENTALLY HAZARDOUS FLAMMABLE LIQUID, N.O.S. (HEXANES), MARINE POLLUTANT
· <b>Transport hazard class(es)</b> · <b>ADG</b>	
 	
· <b>Class</b> · <b>Label</b>	3 (F1) Flammable liquids. 3
· <b>IMDG</b>	
 	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3
· <b>IATA</b>	
	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3

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Trade name: Toxaphene

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· <b>Packing group</b> · <b>ADG, IMDG, IATA</b>	II
· <b>Environmental hazards:</b> · <b>Marine pollutant:</b>	Product contains environmentally hazardous substances: Toxaphene, n-hexane Yes
· <b>Special marking (ADG):</b>	Symbol (fish and tree) Symbol (fish and tree)
· <b>Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b> · <b>Stowage Category</b>	Warning: Flammable liquids. 33 F-E,S-E B
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b> · <b>Tunnel restriction code</b>	2 D/E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1993 FLAMMABLE LIQUID, N.O.S., SPECIAL PROVISION 640D (HEXANES), 3, II, ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

· <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>			
110-54-3	n-hexane	Flam. Liq. 2, H225 Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 Skin Irrit. 2, H315; STOT SE 3, H336	99.98%
8001-35-2	Toxaphene	Acute Tox. 3, H301 Carc. 2, H351 Acute Tox. 4, H312; Skin Irrit. 2, H315; STOT SE 3, H335	0.02%

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

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**Trade name: Toxaphene**

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- **Seveso category**  
E2 Hazardous to the Aquatic Environment  
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **National regulations:**
- **Information about limitation of use:**  
*Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.*
- **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

### Disclaimer

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.

### Relevant phrases

- H225 Highly flammable liquid and vapour.
- H301 Toxic if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.
- H351 Suspected of causing cancer.
- H361 Suspected of damaging fertility or the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.

· **Department issuing SDS:** Environmental, Health and Safety

### Contact:

- Within the USA: 1-(800)-762-4000
- Outside the USA: 1-(203)-712-8488

### Abbreviations and acronyms

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
- ICAO: International Civil Aviation Organisation
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- 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)
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative

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**Trade name: Toxaphene**

*Flam. Liq. 2: Flammable liquids – Category 2*  
*Skin Irrit. 2: Skin corrosion/irritation – Category 2*  
*Repr. 2: Reproductive toxicity – Category 2*  
*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*  
*STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*  
*Asp. Tox. 1: Aspiration hazard – Category 1*  
· **\* Data compared to the previous version altered.**

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Hazardous according to criteria of Australian Safety and Compensation Council.

## 1 Identification

- **Product identifier**
- **Trade name:** Chlordane
- **Article number:** N9331002
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
CustomerCareUS@perkinelmer.com  
203-925-4600

-----  
Supplier/Local:  
-----

PerkinElmer Australia  
Lvl 2, Bldg 5, Brandon Office Park  
530-540 Springvale Road  
Glen Waverley  
Melbourne  
VIC 3150  
Australia  
1-800-033-391  
ausales@perkinelmer.com

- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)  
CHEMTREC (within AU) +(61)-290372994

## \* 2 Hazard(s) Identification

- **Classification of the substance or mixture**



Flam. Liq. 2 H225 Highly flammable liquid and vapour.



Repr. 2 H361 Suspected of damaging fertility or the unborn child.  
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

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**Trade name: Chlordane**

(Contd. of page 1)



*Skin Irrit. 2 H315 Causes skin irritation.*

*STOT SE 3 H336 May cause drowsiness or dizziness.*

· **Label elements**

· **GHS label elements**

*The substance is classified and labelled according to the Globally Harmonised System (GHS).*

· **Hazard pictograms** GHS02, GHS07, GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

*n-hexane*

· **Hazard statements**

*H225 Highly flammable liquid and vapour.*

*H315 Causes skin irritation.*

*H361 Suspected of damaging fertility or the unborn child.*

*H336 May cause drowsiness or dizziness.*

*H373 May cause damage to organs through prolonged or repeated exposure.*

· **Precautionary statements**

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

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

*P260 Do not breathe dust/fume/gas/mist/vapours/spray.*

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

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

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

· **Other hazards**

*The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.*

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

**3 Composition and Information on Ingredients**

· **Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

110-54-3	<i>n-hexane</i>	Flam. Liq. 2, H225 Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 Skin Irrit. 2, H315; STOT SE 3, H336	99.9%
57-74-9	<i>chlordane (ISO)</i>	Carc. 2, H351 Acute Tox. 4, H302; Acute Tox. 4, H312	0.1%

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**Trade name: Chlordane**

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· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

**4 First Aid Measures**

· **Description of first aid measures**

· **General information:**

Do not leave affected persons unattended.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **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.

· **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:**

CO<sub>2</sub>, 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:**

Inform respective authorities in case of seepage into water course or sewage system.

Prevent seepage into sewage system, workpits and cellars.

· **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.

· **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.

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Trade name: Chlordane

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**7 Handling and Storage**

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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 container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

**8 Exposure controls and personal protection**

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

**Ingredients with limit values that require monitoring at the workplace:**

**110-54-3 n-hexane**

WES Long-term value: 72 mg/m<sup>3</sup>, 20 ppm

- **Additional information:** The lists valid during the making 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.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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**Trade name: Chlordane**

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· **Penetration time of glove material**

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

### 9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· <b>Form:</b>	Liquid
· <b>Colour:</b>	Transparent
· <b>Odour:</b>	Characteristic
· <b>Odour threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· <b>Melting point/freezing point:</b>	-95 °C
· <b>Initial boiling point and boiling range:</b>	69 °C

· **Flash point:** < 0 °C

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 240 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

· <b>Lower:</b>	1.2 Vol %
· <b>Upper:</b>	7.4 Vol %

· **Vapour pressure at 20 °C:** 160 hPa

· <b>Density at 20 °C:</b>	0.66019 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.

· **Solubility in / Miscibility with water at 20 °C:** 0.1 g/l

· **Partition coefficient: n-octanol/water:** Not determined.

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Trade name: Chlordane

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- **Viscosity:**
  - Dynamic:* Not determined.
  - Kinematic:* Not determined.
- **Solvent content:**
  - Organic solvents:* 99.9 %
- **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**
- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** No irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Irritant
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**  
Repr. 2

### 12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour 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 product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.

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

**14 Transport information**

· <b>UN-Number</b>	UN1993
· <b>ADG, IMDG, IATA</b>	
· <b>UN proper shipping name</b>	1993 FLAMMABLE LIQUID, N.O.S., special provision 640D (HEXANES), ENVIRONMENTALLY HAZARDOUS
· <b>ADG</b>	FLAMMABLE LIQUID, N.O.S. (HEXANES, chlordane (ISO)), MARINE POLLUTANT
· <b>IMDG</b>	FLAMMABLE LIQUID, N.O.S. (HEXANES)
· <b>IATA</b>	
· <b>Transport hazard class(es)</b>	
· <b>ADG</b>	
	
· <b>Class</b>	3 (F1) Flammable liquids.
· <b>Label</b>	3
· <b>IMDG</b>	
	
· <b>Class</b>	3 Flammable liquids.
· <b>Label</b>	3

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Trade name: Chlordane

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· IATA



· Class 3 Flammable liquids.  
· Label 3

· Packing group II  
· ADG, IMDG, IATA

· Environmental hazards: Product contains environmentally hazardous substances: chlordane (ISO), n-hexane  
· Marine pollutant: Yes  
Symbol (fish and tree)  
· Special marking (ADG): Symbol (fish and tree)

· Special precautions for user Warning: Flammable liquids.  
· Danger code (Kemler): 33  
· EMS Number: F-E,S-E  
· Stowage Category B

· Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.

· Transport/Additional information:

· ADG  
· 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  
· Transport category 2  
· Tunnel restriction code D/E

· 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 1993 FLAMMABLE LIQUID, N.O.S., SPECIAL PROVISION 640D (HEXANES), 3, II, ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

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

110-54-3	n-hexane	Flam. Liq. 2, H225 Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 Skin Irrit. 2, H315; STOT SE 3, H336	99.9%
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**Trade name: Chlordane**

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57-74-9	chlordanne (ISO)		0.1%
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- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**  
E2 Hazardous to the Aquatic Environment  
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **National regulations:**
- **Information about limitation of use:**  
Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.
- **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

### Disclaimer

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.

### Relevant phrases

- H225 Highly flammable liquid and vapour.
- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H336 May cause drowsiness or dizziness.
- H351 Suspected of causing cancer.
- H361 Suspected of damaging fertility or the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.

### Department issuing SDS: Environmental, Health and Safety

### Contact:

- Within the USA: 1-(800)-762-4000
- Outside the USA: 1-(203)-712-8488

### Abbreviations and acronyms

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
- ICAO: International Civil Aviation Organisation
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association

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**according to WHS Regulations**

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Revision: 19.07.2018

**Trade name: Chlordane**

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*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)*  
*PBT: Persistent, Bioaccumulative and Toxic*  
*vPvB: very Persistent and very Bioaccumulative*  
*Flam. Liq. 2: Flammable liquids – Category 2*  
*Acute Tox. 4: Acute toxicity – Category 4*  
*Skin Irrit. 2: Skin corrosion/irritation – Category 2*  
*Carc. 2: Carcinogenicity – Category 2*  
*Repr. 2: Reproductive toxicity – Category 2*  
*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*  
*STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*  
*Asp. Tox. 1: Aspiration hazard – Category 1*

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

AU

**according to WHS Regulations**

Printing date 19.07.2018

Revision: 19.07.2018

Hazardous according to criteria of Australian Safety and Compensation Council.

## 1 Identification

- **Product identifier**
- **Trade name:** STD Aroclor 1016
- **Article number:** N9331003
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
CustomerCareUS@perkinelmer.com  
203-925-4600

-----  
Supplier/Local:  
-----

PerkinElmer Australia  
Lvl 2, Bldg 5, Brandon Office Park  
530-540 Springvale Road  
Glen Waverley  
Melbourne  
VIC 3150  
Australia  
1-800-033-391  
ausales@perkinelmer.com

- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)  
CHEMTREC (within AU) +(61)-290372994

## \* 2 Hazard(s) Identification

- **Classification of the substance or mixture**



Flam. Liq. 2 H225 Highly flammable liquid and vapour.



Repr. 2 H361 Suspected of damaging fertility or the unborn child.  
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

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Trade name: STD Aroclor 1016

(Contd. of page 1)



Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

· **Label elements**

· **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms** GHS02, GHS07, GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

n-hexane

· **Hazard statements**

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H361 Suspected of damaging fertility or the unborn child.

H336 May cause drowsiness or dizziness.

H373 May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

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

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

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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

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

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

· **Other hazards**

The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition and Information on Ingredients

· **Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

110-54-3	n-hexane	Flam. Liq. 2, H225 Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 Skin Irrit. 2, H315; STOT SE 3, H336	99.9%
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· **Additional Components**

12674-11-2	AROCLOR 1016	0.1%
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**according to WHS Regulations**

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**Trade name: STD Aroclor 1016**

(Contd. of page 2)

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

**4 First Aid Measures**

· **Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **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.

· **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:**

CO<sub>2</sub>, 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:**

Inform respective authorities in case of seepage into water course or sewage system.

Prevent seepage into sewage system, workpits and cellars.

· **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.

· **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** Store in cool, dry place in tightly closed receptacles.

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according to WHS Regulations

Printing date 19.07.2018

Revision: 19.07.2018

**Trade name: STD Aroclor 1016**

(Contd. of page 3)

- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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 container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls and personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

**110-54-3 n-hexane**

WES | Long-term value: 72 mg/m<sup>3</sup>, 20 ppm

- **Additional information:** The lists valid during the making 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.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
  - **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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Trade name: STD Aroclor 1016

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· Eye protection:



Tightly sealed goggles

## 9 Physical and Chemical Properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:	Liquid
· Colour:	Transparent
· Odour:	Characteristic
· Odour threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

· Melting point/freezing point:	-95 °C
· Initial boiling point and boiling range:	69 °C

· Flash point: < 0 °C

· Flammability (solid, gas): Not applicable.

· Ignition temperature: 240 °C

· Decomposition temperature: Not determined.

· Auto-ignition temperature: Product is not selfigniting.

· Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

· Lower:	1.2 Vol %
· Upper:	7.4 Vol %

· Vapour pressure at 20 °C: 160 hPa

· Density at 20 °C:	0.66 g/cm <sup>3</sup>
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· Solubility in / Miscibility with water at 20 °C: 0.1 g/l

· Partition coefficient: n-octanol/water: Not determined.

· Viscosity:

· Dynamic:	Not determined.
· Kinematic:	Not determined.

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Trade name: STD Aroclor 1016

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- **Solvent content:**
- Organic solvents:** 99.9 %
- **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**
- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** No irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Repr. 2

## 12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour 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 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.

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Trade name: STD Aroclor 1016






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

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### 13 Disposal considerations

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

### 14 Transport information

· <b>UN-Number</b> · <b>ADG, IMDG, IATA</b>	UN1208
· <b>UN proper shipping name</b> · <b>ADG</b> · <b>IMDG</b> · <b>IATA</b>	1208 HEXANES solution, ENVIRONMENTALLY HAZARDOUS HEXANES solution, MARINE POLLUTANT HEXANES solution
· <b>Transport hazard class(es)</b> · <b>ADG</b>	
 	
· <b>Class</b> · <b>Label</b>	3 (F1) Flammable liquids. 3
· <b>IMDG</b>	
 	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3
· <b>IATA</b>	
	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3

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Trade name: STD Aroclor 1016

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· <b>Packing group</b> · <b>ADG, IMDG, IATA</b>	II
· <b>Environmental hazards:</b> · <b>Marine pollutant:</b>	Product contains environmentally hazardous substances: n-hexane Yes
· <b>Special marking (ADG):</b>	Symbol (fish and tree) Symbol (fish and tree)
· <b>Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b> · <b>Stowage Category</b>	Warning: Flammable liquids. 33 F-E,S-D E
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b> · <b>Tunnel restriction code</b>	2 D/E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1208 HEXANES SOLUTION, 3, II, ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

· <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>			
110-54-3	n-hexane	 Flam. Liq. 2, H225  Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304  Skin Irrit. 2, H315; STOT SE 3, H336	99.9%
12674-11-2	AROCLOR 1016		0.1%

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**  
E2 Hazardous to the Aquatic Environment  
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t

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**Trade name: STD Aroclor 1016**

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- **National regulations:**
- **Information about limitation of use:**  
*Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.*
- **Waterhazard class:** *Water hazard class 2 (Self-assessment): hazardous for water.*
- **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## 16 Other information

### Disclaimer

*The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.*

### · Relevant phrases

- H225 Highly flammable liquid and vapour.*
- H304 May be fatal if swallowed and enters airways.*
- H315 Causes skin irritation.*
- H336 May cause drowsiness or dizziness.*
- H361 Suspected of damaging fertility or the unborn child.*
- H373 May cause damage to organs through prolonged or repeated exposure.*

### · Department issuing SDS: Environmental, Health and Safety

### · Contact:

- Within the USA: 1-(800)-762-4000*
- Outside the USA: 1-(203)-712-8488*

### · Abbreviations and acronyms

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*
- ICAO: International Civil Aviation Organisation*
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*
- IMDG: International Maritime Code for Dangerous Goods*
- 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)*
- PBT: Persistent, Bioaccumulative and Toxic*
- vPvB: very Persistent and very Bioaccumulative*
- Flam. Liq. 2: Flammable liquids – Category 2*
- Skin Irrit. 2: Skin corrosion/irritation – Category 2*
- Repr. 2: Reproductive toxicity – Category 2*
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*
- Asp. Tox. 1: Aspiration hazard – Category 1*

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



**according to WHS Regulations**

Printing date 19.07.2018

Revision: 19.07.2018

Hazardous according to criteria of Australian Safety and Compensation Council.

## 1 Identification

- **Product identifier**
- **Trade name:** STD Aroclor 1221
- **Article number:** N9331004
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
CustomerCareUS@perkinelmer.com  
203-925-4600

-----  
Supplier/Local:  
-----

PerkinElmer Australia  
Lvl 2, Bldg 5, Brandon Office Park  
530-540 Springvale Road  
Glen Waverley  
Melbourne  
VIC 3150  
Australia  
1-800-033-391  
ausales@perkinelmer.com

- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)  
CHEMTREC (within AU) +(61)-290372994

## \* 2 Hazard(s) Identification

- **Classification of the substance or mixture**



Flam. Liq. 2 H225 Highly flammable liquid and vapour.



Repr. 2 H361 Suspected of damaging fertility or the unborn child.  
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

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AU

according to WHS Regulations

Printing date 19.07.2018

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Trade name: STD Aroclor 1221

(Contd. of page 1)



Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

· **Label elements**

· **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms** GHS02, GHS07, GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

n-hexane

· **Hazard statements**

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H361 Suspected of damaging fertility or the unborn child.

H336 May cause drowsiness or dizziness.

H373 May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

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

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

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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

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

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

· **Other hazards**

The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition and Information on Ingredients

· **Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

110-54-3	n-hexane	Flam. Liq. 2, H225 Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 Skin Irrit. 2, H315; STOT SE 3, H336	99.9%
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· **Additional Components**

11104-28-2	4-CHLOROPHENYL PHENYL ETHER	0.1%
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**Trade name: STD Aroclor 1221**

(Contd. of page 2)

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

#### 4 First Aid Measures

- **Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **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.
- **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:**  
CO<sub>2</sub>, 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:** Wear self contained breathing apparatus for fire fighting if necessary

#### 6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Prevent seepage into sewage system, workpits and cellars.
- **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.
- **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** Store in cool, dry place in tightly closed receptacles.

(Contd. on page 4)

according to WHS Regulations

Printing date 19.07.2018

Revision: 19.07.2018

**Trade name: STD Aroclor 1221**

(Contd. of page 3)

- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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 container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls and personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

**110-54-3 n-hexane**

WES | Long-term value: 72 mg/m<sup>3</sup>, 20 ppm

- **Additional information:** The lists valid during the making 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.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

- **Material of gloves**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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Trade name: STD Aroclor 1221

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· Eye protection:



Tightly sealed goggles

## 9 Physical and Chemical Properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:	Liquid
· Colour:	Transparent
· Odour:	Characteristic
· Odour threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

· Melting point/freezing point:	-95 °C
· Initial boiling point and boiling range:	69 °C

· Flash point: < 0 °C

· Flammability (solid, gas): Not applicable.

· Ignition temperature: 240 °C

· Decomposition temperature: Not determined.

· Auto-ignition temperature: Product is not selfigniting.

· Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

· Lower:	1.2 Vol %
· Upper:	7.4 Vol %

· Vapour pressure at 20 °C: 160 hPa

· Density at 20 °C:	0.66 g/cm <sup>3</sup>
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· Solubility in / Miscibility with water at 20 °C: 0.1 g/l

· Partition coefficient: n-octanol/water: Not determined.

· Viscosity:

· Dynamic:	Not determined.
· Kinematic:	Not determined.

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**according to WHS Regulations**

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Revision: 19.07.2018

**Trade name: STD Aroclor 1221**

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- **Solvent content:**
- Organic solvents:** 99.9 %
- **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**
- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** No irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Repr. 2

### 12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour 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 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.

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**Trade name: STD Aroclor 1221**




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

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**13 Disposal considerations**

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

**14 Transport information**

· <b>UN-Number</b> · <b>ADG, IMDG, IATA</b>	UNI208
· <b>UN proper shipping name</b> · <b>ADG</b> · <b>IMDG</b> · <b>IATA</b>	1208 HEXANES solution, ENVIRONMENTALLY HAZARDOUS HEXANES solution, MARINE POLLUTANT HEXANES solution
· <b>Transport hazard class(es)</b> · <b>ADG</b>	
	
· <b>Class</b> · <b>Label</b>	3 (F1) Flammable liquids. 3
· <b>IMDG</b>	
	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3
· <b>IATA</b>	
	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3

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Trade name: STD Aroclor 1221

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· <b>Packing group</b> · <b>ADG, IMDG, IATA</b>	II
· <b>Environmental hazards:</b> · <b>Marine pollutant:</b>	Product contains environmentally hazardous substances: n-hexane Yes
· <b>Special marking (ADG):</b>	Symbol (fish and tree) Symbol (fish and tree)
· <b>Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b> · <b>Stowage Category</b>	Warning: Flammable liquids. 33 F-E,S-D E
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b> · <b>Tunnel restriction code</b>	2 D/E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1208 HEXANES SOLUTION, 3, II, ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

· <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>		
110-54-3	n-hexane  Flam. Liq. 2, H225  Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304  Skin Irrit. 2, H315; STOT SE 3, H336	99.9%
11104-28-2	4-CHLOROPHENYL PHENYL ETHER	0.1%

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**  
E2 Hazardous to the Aquatic Environment  
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t

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**Trade name: STD Aroclor 1221**

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- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **National regulations:**
- **Information about limitation of use:**  
*Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.*
- **Waterhazard class:** *Water hazard class 2 (Self-assessment): hazardous for water.*
- **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## 16 Other information

### Disclaimer

*The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.*

### Relevant phrases

- H225 Highly flammable liquid and vapour.*
- H304 May be fatal if swallowed and enters airways.*
- H315 Causes skin irritation.*
- H336 May cause drowsiness or dizziness.*
- H361 Suspected of damaging fertility or the unborn child.*
- H373 May cause damage to organs through prolonged or repeated exposure.*

### Department issuing SDS: Environmental, Health and Safety

### Contact:

- Within the USA: 1-(800)-762-4000*
- Outside the USA: 1-(203)-712-8488*

### Abbreviations and acronyms

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*
- ICAO: International Civil Aviation Organisation*
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*
- IMDG: International Maritime Code for Dangerous Goods*
- 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)*
- PBT: Persistent, Bioaccumulative and Toxic*
- vPvB: very Persistent and very Bioaccumulative*
- Flam. Liq. 2: Flammable liquids – Category 2*
- Skin Irrit. 2: Skin corrosion/irritation – Category 2*
- Repr. 2: Reproductive toxicity – Category 2*
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*
- Asp. Tox. 1: Aspiration hazard – Category 1*

- **\* Data compared to the previous version altered.**

**according to WHS Regulations**

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Hazardous according to criteria of Australian Safety and Compensation Council.

## 1 Identification

- **Product identifier**
- **Trade name:** Aroclor 1232
- **Article number:** N9331005
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
CustomerCareUS@perkinelmer.com  
203-925-4600

-----  
Supplier/Local:  
-----

PerkinElmer Australia  
Lvl 2, Bldg 5, Brandon Office Park  
530-540 Springvale Road  
Glen Waverley  
Melbourne  
VIC 3150  
Australia  
1-800-033-391  
ausales@perkinelmer.com

- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)  
CHEMTREC (within AU) +(61)-290372994

## \* 2 Hazard(s) Identification

- **Classification of the substance or mixture**



Flam. Liq. 2 H225 Highly flammable liquid and vapour.



Repr. 2 H361 Suspected of damaging fertility or the unborn child.  
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

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**Trade name: Aroclor 1232**

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*Skin Irrit. 2 H315 Causes skin irritation.*

*STOT SE 3 H336 May cause drowsiness or dizziness.*

· **Label elements**

· **GHS label elements**

*The substance is classified and labelled according to the Globally Harmonised System (GHS).*

· **Hazard pictograms** GHS02, GHS07, GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

*n-hexane*

· **Hazard statements**

*H225 Highly flammable liquid and vapour.*

*H315 Causes skin irritation.*

*H361 Suspected of damaging fertility or the unborn child.*

*H336 May cause drowsiness or dizziness.*

*H373 May cause damage to organs through prolonged or repeated exposure.*

· **Precautionary statements**

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

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

*P260 Do not breathe dust/fume/gas/mist/vapours/spray.*

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

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

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

· **Other hazards**

*The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.*

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition and Information on Ingredients

· **Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

110-54-3	n-hexane	Flam. Liq. 2, H225 Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 Skin Irrit. 2, H315; STOT SE 3, H336	99.9%
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· **Additional Components**

11141-16-5	Aroclor 1232	0.1%
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**Trade name: Aroclor 1232**

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· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

#### 4 First Aid Measures

- **Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **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.
- **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:**  
CO<sub>2</sub>, 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:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Prevent seepage into sewage system, workpits and cellars.
- **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.
- **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** Use solvent-proof equipment.

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**Trade name: Aroclor 1232**

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- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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 container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

**8 Exposure controls and personal protection**

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

**110-54-3 n-hexane**

WES | Long-term value: 72 mg/m<sup>3</sup>, 20 ppm

- **Additional information:** The lists valid during the making 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.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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Trade name: Aroclor 1232

(Contd. of page 4)

· Eye protection:



Tightly sealed goggles

## 9 Physical and Chemical Properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:	Liquid
· Colour:	Transparent
· Odour:	Characteristic
· Odour threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

· Melting point/freezing point:	-95 °C
· Initial boiling point and boiling range:	69 °C

· Flash point: < 0 °C

· Flammability (solid, gas): Not applicable.

· Ignition temperature: 240 °C

· Decomposition temperature: Not determined.

· Auto-ignition temperature: Product is not selfigniting.

· Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

· Lower:	1.2 Vol %
· Upper:	7.4 Vol %

· Vapour pressure at 20 °C: 160 hPa

· Density at 20 °C:	0.66 g/cm <sup>3</sup>
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· Solubility in / Miscibility with water at 20 °C: 0.1 g/l

· Partition coefficient: n-octanol/water: Not determined.

· Viscosity:

· Dynamic:	Not determined.
· Kinematic:	Not determined.

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according to WHS Regulations

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Revision: 19.07.2018

Trade name: Aroclor 1232

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- **Solvent content:**
- Organic solvents:** 99.9 %
- **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**
- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** No irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Repr. 2

### 12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour 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 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.

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according to WHS Regulations

Printing date 19.07.2018

Revision: 19.07.2018

Trade name: Aroclor 1232




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

(Contd. of page 6)

**13 Disposal considerations**

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

\* **14 Transport information**

· <b>UN-Number</b> · <b>ADG, IMDG, IATA</b>	UN1208
· <b>UN proper shipping name</b> · <b>ADG</b> · <b>IMDG</b> · <b>IATA</b>	1208 HEXANES solution, ENVIRONMENTALLY HAZARDOUS HEXANES solution, MARINE POLLUTANT HEXANES solution
· <b>Transport hazard class(es)</b> · <b>ADG</b>	
	
· <b>Class</b> · <b>Label</b>	3 (F1) Flammable liquids. 3
· <b>IMDG</b>	
	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3
· <b>IATA</b>	
	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3

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Trade name: Aroclor 1232

(Contd. of page 7)

· <b>Packing group</b> · <b>ADG, IMDG, IATA</b>	II
· <b>Environmental hazards:</b> · <b>Marine pollutant:</b>	Product contains environmentally hazardous substances: n-hexane Yes
· <b>Special marking (ADG):</b>	Symbol (fish and tree) Symbol (fish and tree)
· <b>Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b> · <b>Stowage Category</b>	Warning: Flammable liquids. 33 F-E,S-D E
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b> · <b>Tunnel restriction code</b>	2 D/E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1208 HEXANES SOLUTION, 3, II, ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

· <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>			
110-54-3	n-hexane	 Flam. Liq. 2, H225  Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304  Skin Irrit. 2, H315; STOT SE 3, H336	99.9%
11141-16-5	Aroclor 1232		0.1%

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**  
E2 Hazardous to the Aquatic Environment  
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t

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**according to WHS Regulations**

Printing date 19.07.2018

Revision: 19.07.2018

**Trade name: Aroclor 1232**

(Contd. of page 8)

- **National regulations:**
- **Information about limitation of use:**  
*Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.*
- **Waterhazard class:** *Water hazard class 2 (Self-assessment): hazardous for water.*
- **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## 16 Other information

### Disclaimer

*The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.*

### · Relevant phrases

- H225 Highly flammable liquid and vapour.*
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- H315 Causes skin irritation.*
- H336 May cause drowsiness or dizziness.*
- H361 Suspected of damaging fertility or the unborn child.*
- H373 May cause damage to organs through prolonged or repeated exposure.*

### · Department issuing SDS: Environmental, Health and Safety

### · Contact:

- Within the USA: 1-(800)-762-4000*
- Outside the USA: 1-(203)-712-8488*

### · Abbreviations and acronyms

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*
- ICAO: International Civil Aviation Organisation*
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*
- IMDG: International Maritime Code for Dangerous Goods*
- 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)*
- PBT: Persistent, Bioaccumulative and Toxic*
- vPvB: very Persistent and very Bioaccumulative*
- Flam. Liq. 2: Flammable liquids – Category 2*
- Skin Irrit. 2: Skin corrosion/irritation – Category 2*
- Repr. 2: Reproductive toxicity – Category 2*
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*
- Asp. Tox. 1: Aspiration hazard – Category 1*

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

**according to WHS Regulations**

Printing date 19.07.2018

Revision: 19.07.2018

Hazardous according to criteria of Australian Safety and Compensation Council.

## 1 Identification

- **Product identifier**
- **Trade name:** Aroclor 1242
- **Article number:** N9331006
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
CustomerCareUS@perkinelmer.com  
203-925-4600

-----  
Supplier/Local:  
-----

PerkinElmer Australia  
Lvl 2, Bldg 5, Brandon Office Park  
530-540 Springvale Road  
Glen Waverley  
Melbourne  
VIC 3150  
Australia  
1-800-033-391  
ausales@perkinelmer.com

- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)  
CHEMTREC (within AU) +(61)-290372994

## \* 2 Hazard(s) Identification

- **Classification of the substance or mixture**



Flam. Liq. 2 H225 Highly flammable liquid and vapour.



Repr. 2 H361 Suspected of damaging fertility or the unborn child.  
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

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Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

· **Label elements**

· **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms** GHS02, GHS07, GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

n-hexane

· **Hazard statements**

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H361 Suspected of damaging fertility or the unborn child.

H336 May cause drowsiness or dizziness.

H373 May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

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

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

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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

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

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

· **Other hazards**

The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition and Information on Ingredients

· **Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

110-54-3	n-hexane	Flam. Liq. 2, H225 Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 Skin Irrit. 2, H315; STOT SE 3, H336	99.9%
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· **Additional Components**

53469-21-9	Chlorodiphenyl (42% chlorine)	0.1%
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· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

**4 First Aid Measures**

· **Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **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.

· **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:**

CO<sub>2</sub>, 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:**

Inform respective authorities in case of seepage into water course or sewage system.

Prevent seepage into sewage system, workpits and cellars.

· **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.

· **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** Use solvent-proof equipment.

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- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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 container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

**8 Exposure controls and personal protection**

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

**110-54-3 n-hexane**

WES | Long-term value: 72 mg/m<sup>3</sup>, 20 ppm

- **Additional information:** The lists valid during the making 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.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· Eye protection:



Tightly sealed goggles

## 9 Physical and Chemical Properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:	Liquid
· Colour:	Transparent
· Odour:	Characteristic
· Odour threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

· Melting point/freezing point:	-95 °C
· Initial boiling point and boiling range:	69 °C

· Flash point: < 0 °C

· Flammability (solid, gas): Not applicable.

· Ignition temperature: 240 °C

· Decomposition temperature: Not determined.

· Auto-ignition temperature: Product is not selfigniting.

· Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

· Lower:	1.2 Vol %
· Upper:	7.4 Vol %

· Vapour pressure at 20 °C: 160 hPa

· Density at 20 °C:	0.66 g/cm <sup>3</sup>
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· Solubility in / Miscibility with water at 20 °C: 0.1 g/l

· Partition coefficient: n-octanol/water: Not determined.

· Viscosity:

· Dynamic:	Not determined.
· Kinematic:	Not determined.

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- **Solvent content:**
- Organic solvents:** 99.9 %
- **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**
- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** No irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Repr. 2

### 12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour 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 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.

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

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**13 Disposal considerations**

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

**14 Transport information**

· <b>UN-Number</b> · <b>ADG, IMDG, IATA</b>	UN1208
· <b>UN proper shipping name</b> · <b>ADG</b> · <b>IMDG</b> · <b>IATA</b>	1208 HEXANES, ENVIRONMENTALLY HAZARDOUS HEXANES, MARINE POLLUTANT HEXANES
· <b>Transport hazard class(es)</b> · <b>ADG</b>	
 	
· <b>Class</b> · <b>Label</b>	3 (F1) Flammable liquids. 3
· <b>IMDG</b>	
 	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3
· <b>IATA</b>	
	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3

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· <b>Packing group</b> · <b>ADG, IMDG, IATA</b>	II
· <b>Environmental hazards:</b> · <b>Marine pollutant:</b>	Product contains environmentally hazardous substances: n-hexane Yes
· <b>Special marking (ADG):</b>	Symbol (fish and tree) Symbol (fish and tree)
· <b>Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b> · <b>Stowage Category</b>	Warning: Flammable liquids. 33 F-E,S-D E
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b> · <b>Tunnel restriction code</b>	2 D/E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1208 HEXANES, 3, II, ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

· <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>		
110-54-3	n-hexane  Flam. Liq. 2, H225  Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304  Skin Irrit. 2, H315; STOT SE 3, H336	99.9%
53469-21-9	Chlorodiphenyl (42% chlorine)	0.1%

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**  
E2 Hazardous to the Aquatic Environment  
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t

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- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **National regulations:**
- **Information about limitation of use:**  
*Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.*
- **Waterhazard class:** *Water hazard class 2 (Self-assessment): hazardous for water.*
- **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## 16 Other information

### Disclaimer

*The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.*

### Relevant phrases

- H225 Highly flammable liquid and vapour.*
- H304 May be fatal if swallowed and enters airways.*
- H315 Causes skin irritation.*
- H336 May cause drowsiness or dizziness.*
- H361 Suspected of damaging fertility or the unborn child.*
- H373 May cause damage to organs through prolonged or repeated exposure.*

### Department issuing SDS: Environmental, Health and Safety

### Contact:

- Within the USA: 1-(800)-762-4000*
- Outside the USA: 1-(203)-712-8488*

### Abbreviations and acronyms

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*
- ICAO: International Civil Aviation Organisation*
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*
- IMDG: International Maritime Code for Dangerous Goods*
- 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)*
- PBT: Persistent, Bioaccumulative and Toxic*
- vPvB: very Persistent and very Bioaccumulative*
- Flam. Liq. 2: Flammable liquids – Category 2*
- Skin Irrit. 2: Skin corrosion/irritation – Category 2*
- Repr. 2: Reproductive toxicity – Category 2*
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*
- Asp. Tox. 1: Aspiration hazard – Category 1*

- **\* Data compared to the previous version altered.**

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Hazardous according to criteria of Australian Safety and Compensation Council.

## 1 Identification

- **Product identifier**
- **Trade name:** Aroclor 1248
- **Article number:** N9331007
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
CustomerCareUS@perkinelmer.com  
203-925-4600

-----  
Supplier/Local:  
-----

PerkinElmer Australia  
Lvl 2, Bldg 5, Brandon Office Park  
530-540 Springvale Road  
Glen Waverley  
Melbourne  
VIC 3150  
Australia  
1-800-033-391  
ausales@perkinelmer.com

- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)  
CHEMTREC (within AU) +(61)-290372994

## \* 2 Hazard(s) Identification

- **Classification of the substance or mixture**



Flam. Liq. 2 H225 Highly flammable liquid and vapour.



Repr. 2 H361 Suspected of damaging fertility or the unborn child.  
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

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Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

· **Label elements**

· **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms** GHS02, GHS07, GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

n-hexane

· **Hazard statements**

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H361 Suspected of damaging fertility or the unborn child.

H336 May cause drowsiness or dizziness.

H373 May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

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

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

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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

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

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

· **Other hazards**

The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition and Information on Ingredients

· **Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

110-54-3	n-hexane	Flam. Liq. 2, H225 Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 Skin Irrit. 2, H315; STOT SE 3, H336	99.9%
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· **Additional Components**

12672-29-6	AROCLOR 1248	0.1%
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· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

#### 4 First Aid Measures

- **Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **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.
- **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:**  
CO<sub>2</sub>, 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:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Prevent seepage into sewage system, workpits and cellars.
- **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.
- **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** Use solvent-proof equipment.

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- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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 container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

**8 Exposure controls and personal protection**

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

**110-54-3 n-hexane**

WES | Long-term value: 72 mg/m<sup>3</sup>, 20 ppm

- **Additional information:** The lists valid during the making 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.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· Eye protection:



Tightly sealed goggles

## 9 Physical and Chemical Properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:	Liquid
· Colour:	Transparent
· Odour:	Characteristic
· Odour threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

· Melting point/freezing point:	-95 °C
· Initial boiling point and boiling range:	69 °C

· Flash point: < 0 °C

· Flammability (solid, gas): Not applicable.

· Ignition temperature: 240 °C

· Decomposition temperature: Not determined.

· Auto-ignition temperature: Product is not selfigniting.

· Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

· Lower:	1.2 Vol %
· Upper:	7.4 Vol %

· Vapour pressure at 20 °C: 160 hPa

· Density at 20 °C:	0.66 g/cm <sup>3</sup>
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· Solubility in / Miscibility with water at 20 °C: 0.1 g/l

· Partition coefficient: n-octanol/water: Not determined.

· Viscosity:

· Dynamic:	Not determined.
· Kinematic:	Not determined.

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- **Solvent content:**
- Organic solvents:** 99.9 %
- **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**
- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** No irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Repr. 2

### 12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour 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 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.

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

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**13 Disposal considerations**

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

\* **14 Transport information**

· <b>UN-Number</b> · <b>ADG, IMDG, IATA</b>	UN1208
· <b>UN proper shipping name</b> · <b>ADG</b> · <b>IMDG</b> · <b>IATA</b>	1208 HEXANES solution, ENVIRONMENTALLY HAZARDOUS HEXANES solution, MARINE POLLUTANT HEXANES solution
· <b>Transport hazard class(es)</b> · <b>ADG</b>	
 	
· <b>Class</b> · <b>Label</b>	3 (F1) Flammable liquids. 3
· <b>IMDG</b>	
 	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3
· <b>IATA</b>	
	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3

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Trade name: Aroclor 1248

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· <b>Packing group</b> · <b>ADG, IMDG, IATA</b>	II
· <b>Environmental hazards:</b> · <b>Marine pollutant:</b>	Product contains environmentally hazardous substances: n-hexane Yes
· <b>Special marking (ADG):</b>	Symbol (fish and tree) Symbol (fish and tree)
· <b>Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b> · <b>Stowage Category</b>	Warning: Flammable liquids. 33 F-E,S-D E
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b> · <b>Tunnel restriction code</b>	2 D/E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1208 HEXANES SOLUTION, 3, II, ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

· <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>			
110-54-3	n-hexane	Flam. Liq. 2, H225 Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 Skin Irrit. 2, H315; STOT SE 3, H336	99.9%
12672-29-6	AROCLOR 1248		0.1%

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**  
E2 Hazardous to the Aquatic Environment  
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t

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**Trade name: Aroclor 1248**

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- **National regulations:**
- **Information about limitation of use:**  
*Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.*
- **Waterhazard class:** *Water hazard class 2 (Self-assessment): hazardous for water.*
- **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## 16 Other information

### Disclaimer

*The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.*

### · Relevant phrases

- H225 Highly flammable liquid and vapour.*
- H304 May be fatal if swallowed and enters airways.*
- H315 Causes skin irritation.*
- H336 May cause drowsiness or dizziness.*
- H361 Suspected of damaging fertility or the unborn child.*
- H373 May cause damage to organs through prolonged or repeated exposure.*

### · Department issuing SDS: Environmental, Health and Safety

### · Contact:

- Within the USA: 1-(800)-762-4000*
- Outside the USA: 1-(203)-712-8488*

### · Abbreviations and acronyms

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*
- ICAO: International Civil Aviation Organisation*
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*
- IMDG: International Maritime Code for Dangerous Goods*
- 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)*
- PBT: Persistent, Bioaccumulative and Toxic*
- vPvB: very Persistent and very Bioaccumulative*
- Flam. Liq. 2: Flammable liquids – Category 2*
- Skin Irrit. 2: Skin corrosion/irritation – Category 2*
- Repr. 2: Reproductive toxicity – Category 2*
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*
- Asp. Tox. 1: Aspiration hazard – Category 1*

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

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Hazardous according to criteria of Australian Safety and Compensation Council.

## 1 Identification

- **Product identifier**
- **Trade name:** Aroclor 1254
- **Article number:** N9331008
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
CustomerCareUS@perkinelmer.com  
203-925-4600

-----  
Supplier/Local:  
-----

PerkinElmer Australia  
Lvl 2, Bldg 5, Brandon Office Park  
530-540 Springvale Road  
Glen Waverley  
Melbourne  
VIC 3150  
Australia  
1-800-033-391  
ausales@perkinelmer.com

- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)  
CHEMTREC (within AU) +(61)-290372994

## \* 2 Hazard(s) Identification

- **Classification of the substance or mixture**



Flam. Liq. 2 H225 Highly flammable liquid and vapour.



Repr. 2 H361 Suspected of damaging fertility or the unborn child.  
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

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Trade name: Aroclor 1254

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*Skin Irrit. 2 H315 Causes skin irritation.*

*STOT SE 3 H336 May cause drowsiness or dizziness.*

· **Label elements**

· **GHS label elements**

*The substance is classified and labelled according to the Globally Harmonised System (GHS).*

· **Hazard pictograms** GHS02, GHS07, GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

*n-hexane*

· **Hazard statements**

*H225 Highly flammable liquid and vapour.*

*H315 Causes skin irritation.*

*H361 Suspected of damaging fertility or the unborn child.*

*H336 May cause drowsiness or dizziness.*

*H373 May cause damage to organs through prolonged or repeated exposure.*

· **Precautionary statements**

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

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

*P260 Do not breathe dust/fume/gas/mist/vapours/spray.*

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

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

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

· **Other hazards**

*The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.*

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition and Information on Ingredients

· **Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

110-54-3	n-hexane	Flam. Liq. 2, H225 Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 Skin Irrit. 2, H315; STOT SE 3, H336	99.9%
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· **Additional Components**

11097-69-1	Chlorodiphenyl (54% chlorine)	0.1%
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**Trade name: Aroclor 1254**

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· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

**4 First Aid Measures**

· **Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **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.

· **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:**

CO<sub>2</sub>, 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:**

Inform respective authorities in case of seepage into water course or sewage system.

Prevent seepage into sewage system, workpits and cellars.

· **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.

· **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** Use solvent-proof equipment.

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**Trade name: Aroclor 1254**

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- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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 container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

**8 Exposure controls and personal protection**

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

**110-54-3 n-hexane**

WES | Long-term value: 72 mg/m<sup>3</sup>, 20 ppm

- **Additional information:** The lists valid during the making 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.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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Trade name: Aroclor 1254

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· Eye protection:



Tightly sealed goggles

## 9 Physical and Chemical Properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:	Liquid
· Colour:	Transparent
· Odour:	Characteristic
· Odour threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

· Melting point/freezing point:	-95 °C
· Initial boiling point and boiling range:	69 °C

· Flash point: < 0 °C

· Flammability (solid, gas): Not applicable.

· Ignition temperature: 240 °C

· Decomposition temperature: Not determined.

· Auto-ignition temperature: Product is not selfigniting.

· Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

· Lower:	1.2 Vol %
· Upper:	7.4 Vol %

· Vapour pressure at 20 °C: 160 hPa

· Density at 20 °C:	0.66 g/cm <sup>3</sup>
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· Solubility in / Miscibility with water at 20 °C: 0.1 g/l

· Partition coefficient: n-octanol/water: Not determined.

· Viscosity:

· Dynamic:	Not determined.
· Kinematic:	Not determined.

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**according to WHS Regulations**

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**Trade name: Aroclor 1254**

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- **Solvent content:**
- Organic solvents:** 99.9 %
- **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**
- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** No irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Repr. 2

### 12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour 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 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.

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**according to WHS Regulations**

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**Trade name: Aroclor 1254**






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

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**13 Disposal considerations**

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

**14 Transport information**

· <b>UN-Number</b> · <b>ADG, IMDG, IATA</b>	UN1208
· <b>UN proper shipping name</b> · <b>ADG</b> · <b>IMDG</b> · <b>IATA</b>	1208 HEXANES, ENVIRONMENTALLY HAZARDOUS HEXANES, MARINE POLLUTANT HEXANES
· <b>Transport hazard class(es)</b> · <b>ADG</b>	
 	
· <b>Class</b> · <b>Label</b>	3 (F1) Flammable liquids. 3
· <b>IMDG</b>	
 	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3
· <b>IATA</b>	
	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3

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Trade name: Aroclor 1254

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· <b>Packing group</b> · <b>ADG, IMDG, IATA</b>	II
· <b>Environmental hazards:</b> · <b>Marine pollutant:</b>	Product contains environmentally hazardous substances: n-hexane Yes
· <b>Special marking (ADG):</b>	Symbol (fish and tree) Symbol (fish and tree)
· <b>Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b> · <b>Stowage Category</b>	Warning: Flammable liquids. 33 F-E,S-D E
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b> · <b>Tunnel restriction code</b>	2 D/E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1208 HEXANES, 3, II, ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

· <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>		
110-54-3	n-hexane  Flam. Liq. 2, H225  Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304  Skin Irrit. 2, H315; STOT SE 3, H336	99.9%
11097-69-1	Chlorodiphenyl (54% chlorine)	0.1%

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**  
E2 Hazardous to the Aquatic Environment  
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t

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**Trade name: Aroclor 1254**

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- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **National regulations:**
- **Information about limitation of use:**  
*Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.*
- **Waterhazard class:** *Water hazard class 2 (Self-assessment): hazardous for water.*
- **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## 16 Other information

### Disclaimer

*The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.*

### Relevant phrases

- H225 Highly flammable liquid and vapour.*
- H304 May be fatal if swallowed and enters airways.*
- H315 Causes skin irritation.*
- H336 May cause drowsiness or dizziness.*
- H361 Suspected of damaging fertility or the unborn child.*
- H373 May cause damage to organs through prolonged or repeated exposure.*

### Department issuing SDS: Environmental, Health and Safety

### Contact:

- Within the USA: 1-(800)-762-4000*
- Outside the USA: 1-(203)-712-8488*

### Abbreviations and acronyms

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*
- ICAO: International Civil Aviation Organisation*
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*
- IMDG: International Maritime Code for Dangerous Goods*
- 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)*
- PBT: Persistent, Bioaccumulative and Toxic*
- vPvB: very Persistent and very Bioaccumulative*
- Flam. Liq. 2: Flammable liquids – Category 2*
- Skin Irrit. 2: Skin corrosion/irritation – Category 2*
- Repr. 2: Reproductive toxicity – Category 2*
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*
- Asp. Tox. 1: Aspiration hazard – Category 1*

- **\* Data compared to the previous version altered.**

**according to WHS Regulations**

Printing date 19.07.2018

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Hazardous according to criteria of Australian Safety and Compensation Council.

## 1 Identification

- **Product identifier**
- **Trade name:** Aroclor 1260
- **Article number:** N9331009
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
CustomerCareUS@perkinelmer.com  
203-925-4600

-----  
Supplier/Local:  
-----

PerkinElmer Australia  
Lvl 2, Bldg 5, Brandon Office Park  
530-540 Springvale Road  
Glen Waverley  
Melbourne  
VIC 3150  
Australia  
1-800-033-391  
ausales@perkinelmer.com

- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)  
CHEMTREC (within AU) +(61)-290372994

## \* 2 Hazard(s) Identification

- **Classification of the substance or mixture**



Flam. Liq. 2 H225 Highly flammable liquid and vapour.



Repr. 2 H361 Suspected of damaging fertility or the unborn child.  
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

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**Trade name: Aroclor 1260**

(Contd. of page 1)



*Skin Irrit. 2 H315 Causes skin irritation.*

*STOT SE 3 H336 May cause drowsiness or dizziness.*

· **Label elements**

· **GHS label elements**

*The substance is classified and labelled according to the Globally Harmonised System (GHS).*

· **Hazard pictograms** GHS02, GHS07, GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

*n-hexane*

· **Hazard statements**

*H225 Highly flammable liquid and vapour.*

*H315 Causes skin irritation.*

*H361 Suspected of damaging fertility or the unborn child.*

*H336 May cause drowsiness or dizziness.*

*H373 May cause damage to organs through prolonged or repeated exposure.*

· **Precautionary statements**

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

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

*P260 Do not breathe dust/fume/gas/mist/vapours/spray.*

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

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

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

· **Other hazards**

*The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.*

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition and Information on Ingredients

· **Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

110-54-3	n-hexane	Flam. Liq. 2, H225 Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 Skin Irrit. 2, H315; STOT SE 3, H336	99.98%
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· **Additional Components**

11096-82-5	aroclor 1260	0.02%
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Revision: 19.07.2018

**Trade name: Aroclor 1260**

(Contd. of page 2)

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

#### 4 First Aid Measures

· **Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **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.

· **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:**

CO<sub>2</sub>, 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:**

Inform respective authorities in case of seepage into water course or sewage system.

Prevent seepage into sewage system, workpits and cellars.

· **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.

· **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** Use solvent-proof equipment.

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- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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 container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

**8 Exposure controls and personal protection**

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

**110-54-3 n-hexane**

WES | Long-term value: 72 mg/m<sup>3</sup>, 20 ppm

- **Additional information:** The lists valid during the making 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.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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Trade name: Aroclor 1260

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· Eye protection:



Tightly sealed goggles

## 9 Physical and Chemical Properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:	Liquid
· Colour:	Transparent
· Odour:	Characteristic
· Odour threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

· Melting point/freezing point:	-95 °C
· Initial boiling point and boiling range:	69 °C

· Flash point: < 0 °C

· Flammability (solid, gas): Not applicable.

· Ignition temperature: 240 °C

· Decomposition temperature: Not determined.

· Auto-ignition temperature: Product is not selfigniting.

· Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

· Lower:	1.2 Vol %
· Upper:	7.4 Vol %

· Vapour pressure at 20 °C: 160 hPa

· Density at 20 °C:	0.66 g/cm <sup>3</sup>
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· Solubility in / Miscibility with water at 20 °C: 0.1 g/l

· Partition coefficient: n-octanol/water: Not determined.

· Viscosity:

· Dynamic:	Not determined.
· Kinematic:	Not determined.

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- **Solvent content:**
- Organic solvents:** 100.0 %
- **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**
- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** No irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Repr. 2

### 12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour 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 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.

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

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### 13 Disposal considerations

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

### 14 Transport information

· <b>UN-Number</b> · <b>ADG, IMDG, IATA</b>	UN1208
· <b>UN proper shipping name</b> · <b>ADG</b> · <b>IMDG</b> · <b>IATA</b>	1208 HEXANES solution, ENVIRONMENTALLY HAZARDOUS HEXANES solution, MARINE POLLUTANT HEXANES solution
· <b>Transport hazard class(es)</b> · <b>ADG</b>	
	
· <b>Class</b> · <b>Label</b>	3 (F1) Flammable liquids. 3
· <b>IMDG</b>	
	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3
· <b>IATA</b>	
	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3

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· <b>Packing group</b> · <b>ADG, IMDG, IATA</b>	II
· <b>Environmental hazards:</b> · <b>Marine pollutant:</b>	Product contains environmentally hazardous substances: n-hexane Yes
· <b>Special marking (ADG):</b>	Symbol (fish and tree) Symbol (fish and tree)
· <b>Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b> · <b>Stowage Category</b>	Warning: Flammable liquids. 33 F-E,S-D E
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b> · <b>Tunnel restriction code</b>	2 D/E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1208 HEXANES SOLUTION, 3, II, ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

· <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>			
110-54-3	n-hexane	Flam. Liq. 2, H225 Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 Skin Irrit. 2, H315; STOT SE 3, H336	99.98%
11096-82-5	aroclor 1260		0.02%

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**  
E2 Hazardous to the Aquatic Environment  
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t

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- **National regulations:**
- **Information about limitation of use:**  
*Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.*
- **Waterhazard class:** *Water hazard class 2 (Self-assessment): hazardous for water.*
- **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## 16 Other information

### Disclaimer

*The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.*

### · Relevant phrases

- H225 Highly flammable liquid and vapour.*
- H304 May be fatal if swallowed and enters airways.*
- H315 Causes skin irritation.*
- H336 May cause drowsiness or dizziness.*
- H361 Suspected of damaging fertility or the unborn child.*
- H373 May cause damage to organs through prolonged or repeated exposure.*

### · Department issuing SDS: Environmental, Health and Safety

### · Contact:

- Within the USA: 1-(800)-762-4000*
- Outside the USA: 1-(203)-712-8488*

### · Abbreviations and acronyms

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*
- ICAO: International Civil Aviation Organisation*
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*
- IMDG: International Maritime Code for Dangerous Goods*
- 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)*
- PBT: Persistent, Bioaccumulative and Toxic*
- vPvB: very Persistent and very Bioaccumulative*
- Flam. Liq. 2: Flammable liquids – Category 2*
- Skin Irrit. 2: Skin corrosion/irritation – Category 2*
- Repr. 2: Reproductive toxicity – Category 2*
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*
- Asp. Tox. 1: Aspiration hazard – Category 1*

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

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Hazardous according to criteria of Australian Safety and Compensation Council.

## 1 Identification

- **Product identifier**
- **Trade name:** Aroclor 1262
- **Article number:** N9331010
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
CustomerCareUS@perkinelmer.com  
203-925-4600

-----  
Supplier/Local:  
-----

PerkinElmer Australia  
Lvl 2, Bldg 5, Brandon Office Park  
530-540 Springvale Road  
Glen Waverley  
Melbourne  
VIC 3150  
Australia  
1-800-033-391  
ausales@perkinelmer.com

- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)  
CHEMTREC (within AU) +(61)-290372994

## \* 2 Hazard(s) Identification

- **Classification of the substance or mixture**



Flam. Liq. 2 H225 Highly flammable liquid and vapour.



Repr. 2 H361 Suspected of damaging fertility or the unborn child.  
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

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Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

· **Label elements**

· **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms** GHS02, GHS07, GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

n-hexane

· **Hazard statements**

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H361 Suspected of damaging fertility or the unborn child.

H336 May cause drowsiness or dizziness.

H373 May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

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

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

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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

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

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

· **Other hazards**

The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition and Information on Ingredients

· **Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

110-54-3	n-hexane	Flam. Liq. 2, H225 Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 Skin Irrit. 2, H315; STOT SE 3, H336	99.98%
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· **Additional Components**

37324-23-5	AROCLOR 1262	0.02%
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· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

#### 4 First Aid Measures

· **Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **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.

· **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:**

CO<sub>2</sub>, 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:**

Inform respective authorities in case of seepage into water course or sewage system.

Prevent seepage into sewage system, workpits and cellars.

· **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.

· **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** Use solvent-proof equipment.

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- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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 container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

**8 Exposure controls and personal protection**

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

**110-54-3 n-hexane**

WES | Long-term value: 72 mg/m<sup>3</sup>, 20 ppm

- **Additional information:** The lists valid during the making 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.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

- **The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.**  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· Eye protection:



Tightly sealed goggles

## 9 Physical and Chemical Properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:	Liquid
· Colour:	Transparent
· Odour:	Characteristic
· Odour threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

· Melting point/freezing point:	-95 °C
· Initial boiling point and boiling range:	69 °C

· Flash point: < 0 °C

· Flammability (solid, gas): Not applicable.

· Ignition temperature: 240 °C

· Decomposition temperature: Not determined.

· Auto-ignition temperature: Product is not selfigniting.

· Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

· Lower:	1.2 Vol %
· Upper:	7.4 Vol %

· Vapour pressure at 20 °C: 160 hPa

· Density at 20 °C:	0.66 g/cm <sup>3</sup>
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· Solubility in / Miscibility with water at 20 °C: 0.1 g/l

· Partition coefficient: n-octanol/water: Not determined.

· Viscosity:

· Dynamic:	Not determined.
· Kinematic:	Not determined.

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- **Solvent content:**
- Organic solvents:** 100.0 %
- **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**
- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** No irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Repr. 2

### 12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour 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 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.

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

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### 13 Disposal considerations

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

### 14 Transport information

· <b>UN-Number</b> · <b>ADG, IMDG, IATA</b>	UN1208
· <b>UN proper shipping name</b> · <b>ADG</b> · <b>IMDG</b> · <b>IATA</b>	1208 HEXANES solution, ENVIRONMENTALLY HAZARDOUS HEXANES solution, MARINE POLLUTANT HEXANES solution
· <b>Transport hazard class(es)</b> · <b>ADG</b>	
	
· <b>Class</b> · <b>Label</b>	3 (F1) Flammable liquids. 3
· <b>IMDG</b>	
	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3
· <b>IATA</b>	
	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3

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· <b>Packing group</b> · <b>ADG, IMDG, IATA</b>	II
· <b>Environmental hazards:</b> · <b>Marine pollutant:</b>	Product contains environmentally hazardous substances: n-hexane Yes
· <b>Special marking (ADG):</b>	Symbol (fish and tree) Symbol (fish and tree)
· <b>Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b> · <b>Stowage Category</b>	Warning: Flammable liquids. 33 F-E,S-D E
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b> · <b>Tunnel restriction code</b>	2 D/E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1208 HEXANES SOLUTION, 3, II, ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

· <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>			
110-54-3	n-hexane	Flam. Liq. 2, H225 Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 Skin Irrit. 2, H315; STOT SE 3, H336	99.98%
37324-23-5	AROCLOR 1262		0.02%

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**  
E2 Hazardous to the Aquatic Environment  
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t

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- **National regulations:**
- **Information about limitation of use:**  
*Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.*
- **Waterhazard class:** *Water hazard class 2 (Self-assessment): hazardous for water.*
- **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## 16 Other information

### Disclaimer

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### · Relevant phrases

- H225 Highly flammable liquid and vapour.*
- H304 May be fatal if swallowed and enters airways.*
- H315 Causes skin irritation.*
- H336 May cause drowsiness or dizziness.*
- H361 Suspected of damaging fertility or the unborn child.*
- H373 May cause damage to organs through prolonged or repeated exposure.*

### · Department issuing SDS: Environmental, Health and Safety

### · Contact:

- Within the USA: 1-(800)-762-4000*
- Outside the USA: 1-(203)-712-8488*

### · Abbreviations and acronyms

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*
- ICAO: International Civil Aviation Organisation*
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*
- IMDG: International Maritime Code for Dangerous Goods*
- 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)*
- PBT: Persistent, Bioaccumulative and Toxic*
- vPvB: very Persistent and very Bioaccumulative*
- Flam. Liq. 2: Flammable liquids – Category 2*
- Skin Irrit. 2: Skin corrosion/irritation – Category 2*
- Repr. 2: Reproductive toxicity – Category 2*
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*
- Asp. Tox. 1: Aspiration hazard – Category 1*

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

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*Hazardous according to criteria of Australian Safety and Compensation Council.*

## 1 Identification

- **Product identifier**
- **Trade name:** Aroclor 1268
- **Article number:** N9331011
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
CustomerCareUS@perkinelmer.com  
203-925-4600

-----  
Supplier/Local:  
-----

PerkinElmer Australia  
Lvl 2, Bldg 5, Brandon Office Park  
530-540 Springvale Road  
Glen Waverley  
Melbourne  
VIC 3150  
Australia  
1-800-033-391  
ausales@perkinelmer.com

- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)  
CHEMTREC (within AU) +(61)-290372994

## \* 2 Hazard(s) Identification

- **Classification of the substance or mixture**



flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



health hazard

Repr. 2 H361 Suspected of damaging fertility or the unborn child.  
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

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*Skin Irrit. 2 H315 Causes skin irritation.*

*STOT SE 3 H336 May cause drowsiness or dizziness.*

· **Label elements**

· **GHS label elements**

*The substance is classified and labelled according to the Globally Harmonised System (GHS).*

· **Hazard pictograms** GHS02, GHS07, GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

*n-hexane*

· **Hazard statements**

*H225 Highly flammable liquid and vapour.*

*H315 Causes skin irritation.*

*H361 Suspected of damaging fertility or the unborn child.*

*H336 May cause drowsiness or dizziness.*

*H373 May cause damage to organs through prolonged or repeated exposure.*

· **Precautionary statements**

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

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

*P260 Do not breathe dust/fume/gas/mist/vapours/spray.*

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

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

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

· **Other hazards**

*The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.*

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition and Information on Ingredients

· **Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

110-54-3	n-hexane	Flam. Liq. 2, H225 Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 Skin Irrit. 2, H315; STOT SE 3, H336	99.98%
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· **Additional Components**

11100-14-4	AROCLOR 1268	0.02%
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· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

#### 4 First Aid Measures

- **Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **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.
- **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:**  
CO<sub>2</sub>, 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:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Prevent seepage into sewage system, workpits and cellars.
- **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.
- **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** Use solvent-proof equipment.

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**Trade name: Aroclor 1268**

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- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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 container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

**8 Exposure controls and personal protection**

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

**110-54-3 n-hexane**

WES | Long-term value: 72 mg/m<sup>3</sup>, 20 ppm

- **Additional information:** The lists valid during the making 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.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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Trade name: Aroclor 1268

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· Eye protection:



Tightly sealed goggles

## 9 Physical and Chemical Properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:	Liquid
· Colour:	Transparent
· Odour:	Characteristic
· Odour threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

· Melting point/freezing point:	-95 °C
· Initial boiling point and boiling range:	69 °C

· Flash point: < 0 °C

· Flammability (solid, gas): Not applicable.

· Ignition temperature: 240 °C

· Decomposition temperature: Not determined.

· Auto-ignition temperature: Product is not selfigniting.

· Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

· Lower:	1.2 Vol %
· Upper:	7.4 Vol %

· Vapour pressure at 20 °C: 160 hPa

· Density at 20 °C:	0.66 g/cm <sup>3</sup>
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· Solubility in / Miscibility with water at 20 °C: 0.1 g/l

· Partition coefficient: n-octanol/water: Not determined.

· Viscosity:

· Dynamic:	Not determined.
· Kinematic:	Not determined.

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- **Solvent content:**
- Organic solvents:** 100.0 %
- **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**
- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** No irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Repr. 2

### 12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour 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 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.

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

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**13 Disposal considerations**

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

**14 Transport information**

· <b>UN-Number</b> · <b>ADG, IMDG, IATA</b>	UNI208
· <b>UN proper shipping name</b> · <b>ADG</b> · <b>IMDG</b> · <b>IATA</b>	1208 HEXANES, ENVIRONMENTALLY HAZARDOUS HEXANES, MARINE POLLUTANT HEXANES
· <b>Transport hazard class(es)</b> · <b>ADG</b>	
 	
· <b>Class</b> · <b>Label</b>	3 (F1) Flammable liquids. 3
· <b>IMDG</b>	
 	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3
· <b>IATA</b>	
	
· <b>Class</b> · <b>Label</b>	3 Flammable liquids. 3

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Trade name: Aroclor 1268

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· <b>Packing group</b> · <b>ADG, IMDG, IATA</b>	II
· <b>Environmental hazards:</b> · <b>Marine pollutant:</b>	Product contains environmentally hazardous substances: n-hexane Yes
· <b>Special marking (ADG):</b>	Symbol (fish and tree) Symbol (fish and tree)
· <b>Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b> · <b>Stowage Category</b>	Warning: Flammable liquids. 33 F-E,S-D E
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b> · <b>Tunnel restriction code</b>	2 D/E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1208 HEXANES, 3, II, ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

· <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>			
110-54-3	n-hexane	Flam. Liq. 2, H225 Repr. 2, H361; STOT RE 2, H373; Asp. Tox. 1, H304 Skin Irrit. 2, H315; STOT SE 3, H336	99.98%
11100-14-4	AROCLOR 1268		0.02%

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**  
E2 Hazardous to the Aquatic Environment  
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
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(Contd. of page 8)

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- **Information about limitation of use:**  
*Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.*
- **Waterhazard class:** *Water hazard class 2 (Self-assessment): hazardous for water.*
- **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## 16 Other information

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