



# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/13C, 99%) IN NONANE/ISOOCTANE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
Issue date: 9/21/2015 Revision date: 9/12/2023 Supersedes: 10/26/2022 Version: 2.1

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/13C, 99%) IN NONANE/ISOOCTANE  
Product code : ES-5464

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Cambridge Isotope Laboratories, Inc.  
50 Frontage Rd  
01810  
ANDOVER, MA, 01810  
USA  
T 1-800-322-1174  
[cilsales@isotope.com](mailto:cilsales@isotope.com) - [www.isotope.com](http://www.isotope.com)

#### 1.4. Emergency telephone number

Emergency number : 1-703-741-5970  
Chemtrec 1-800-424-9300 24 hours

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Flammable liquids Category 3	H226	Flammable liquid and vapor
Acute toxicity (inhalation) Category 4	H332	Harmful if inhaled
Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2A	H319	Causes serious eye irritation
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336	May cause drowsiness or dizziness
Aspiration hazard Category 1	H304	May be fatal if swallowed and enters airways
Hazardous to the aquatic environment – Chronic Hazard Category 3	H412	Harmful to aquatic life with long lasting effects

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger  
Hazard statements (GHS US) : H226 - Flammable liquid and vapor  
H304 - May be fatal if swallowed and enters airways  
H315 - Causes skin irritation

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Precautionary statements (GHS US)	<p>H319 - Causes serious eye irritation H332 - Harmful if inhaled H336 - May cause drowsiness or dizziness H412 - Harmful to aquatic life with long lasting effects</p> <p>: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. heat, hot surfaces, open flames, sparks P233 - Keep container tightly closed. P240 - Ground/Bond container and receiving equipment. P241 - Use explosion-proof electrical, lighting, ventilating equipment. P242 - Use only non-sparking tools. P243 - Take precautionary measures against static discharge. P261 - Avoid breathing fume, mist, spray, vapors. P264 - Wash Both hands thoroughly after handling. P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid release to the environment. P280 - Wear eye protection, face protection, protective clothing, protective gloves. P301+P310 - If swallowed: Immediately call a poison center or doctor. P302+P352 - If on skin: Wash with plenty of water. P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P312 - Call a poison center or doctor if you feel unwell. P321 - Specific treatment (see Hazard pictograms (CLP) on this label). P331 - Do NOT induce vomiting. P332+P313 - If skin irritation occurs: Get medical advice/attention. P337+P313 - If eye irritation persists: Get medical advice/attention. P362 - Take off contaminated clothing and wash before reuse. P370+P378 - In case of fire: Use Alcohol resistant foam, Carbon dioxide, Dry chemical, Water spray to extinguish. P403+P233 - Store in a well-ventilated place. Keep container tightly closed. P403+P235 - Store in a well-ventilated place. Keep cool. P405 - Store locked up. P501 - Dispose of contents/container to Comply with applicable regulations.</p>
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### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

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### 3.2. Mixtures

Name	Product identifier	%	GHS US classification
N-NONANE UNLABELED	CAS-No.: 111-84-2	99.98026992 7 – 99.20673729 2	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 Asp. Tox. 1, H304
ISOOCTANE UNLABELED	CAS-No.: 540-84-1	0.019650574 8 – 0.790175463 6	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
4,4'-DDE UNLABELED	CAS-No.: 72-55-9	0.0000001 – 0.0001115	Acute Tox. 4 (Oral), H302 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
ENDOSULFAN II UNLABELED	CAS-No.: 33213-65-9	0.0000001 – 0.0001115	Acute Tox. 3 (Oral), H301 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
HEXACHLOROBENZENE UNLABELED	CAS-No.: 118-74-1	0.00000006 – 0.00011145	Carc. 1B, H350 STOT SE 1, H370 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
PENTACHLOROBENZENE UNLABELED	CAS-No.: 608-93-5	0.00000006 – 0.00011145	Flam. Sol. 1, H228 Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
ALDRIN UNLABELED	CAS-No.: 309-00-2	0.00000006 – 0.00011145	Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,4'-DDT UNLABELED (97% CHEMICAL PURITY)	CAS-No.: 789-02-6	0.00000006 – 0.00011145	Acute Tox. 3 (Oral), H301 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
DIELDRIN UNLABELED	CAS-No.: 60-57-1	0.00000006 – 0.00011145	Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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Name	Product identifier	%	GHS US classification
ENDRIN UNLABELED	CAS-No.: 72-20-8	0.00000006 – 0.00011145	Acute Tox. 1 (Oral), H300 Acute Tox. 2 (Dermal), H310 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
4,4'-DDT UNLABELED	CAS-No.: 50-29-3	0.00000006 – 0.00011145	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Carc. 2, H351 STOT SE 1, H370 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
LINDANE UNLABELED	CAS-No.: 58-89-9	0.00000006 – 0.00011145	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Lact., H362 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
MIREX UNLABELED	CAS-No.: 2385-85-5	0.00000006 – 0.00011145	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Carc. 2, H351 Repr. 2, H361 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
ALPHA-BHC UNLABELED	CAS-No.: 319-84-6	0.00000006 – 0.00011145	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
DELTA-BHC UNLABELED	CAS-No.: 319-86-8	0.00000006 – 0.00011145	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
HEPTACHLOR UNLABELED	CAS-No.: 76-44-8	0.00000006 – 0.00011145	Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Carc. 2, H351 Aquatic Chronic 1, H410
CIS-CHLORDANE(ALPHA) UNLABELED	CAS-No.: 5103-71-9	0.00000006 – 0.00011145	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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Name	Product identifier	%	GHS US classification
TRANS-NONACHLOR UNLABELED	CAS-No.: 39765-80-5	0.00000006 – 0.00011145	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
CIS-NONACHLOR UNLABELED	CAS-No.: 5103-73-1	0.00000006 – 0.00011145	Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400
CIS-HEPTACHLOR EPOXIDE UNLABELED	CAS-No.: 1024-57-3	0.00000006 – 0.00011145	Acute Tox. 2 (Oral), H300 Carc. 2, H351 STOT RE 2, H373 Aquatic Chronic 1, H410
TRANS-CHLORDANE (GAMMA) UNLABELED	CAS-No.: 5103-74-2	0.00000006 – 0.00011145	Acute Tox. 4 (Oral), H302 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,4'-DDD UNLABELED	CAS-No.: 53-19-0	0.00000006 – 0.00011145	Carc. 2, H351
2,4'-DDE UNLABELED	CAS-No.: 3424-82-6	0.00000006 – 0.00011145	Acute Tox. 4 (Oral), H302 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
4,4'-DDD UNLABELED	CAS-No.: 72-54-8	0.00000006 – 0.00011145	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Carc. 2, H351 Aquatic Chronic 1, H410
TRANS-HEPTACHLOR EPOXIDE UNLABELED	CAS-No.: 28044-83-9	0.00000006 – 0.00011145	Acute Tox. 2 (Oral), H300 Carc. 2, H351 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
BETA-BHC UNLABELED	CAS-No.: 319-85-7	0.00000006 – 0.00011145	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
OXYCHLORDANE UNLABELED	CAS-No.: 27304-13-8	0.00000006 – 0.00011145	Acute Tox. 4 (Oral), H302
KEPONE (CHLORDECONE) UNLABELED	CAS-No.: 143-50-0	0.00000006 – 0.00011145	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
ENDOSULFAN I UNLABELED	CAS-No.: 959-98-8	0.00000006 – 0.00011145	Acute Tox. 1 (Oral), H300 Acute Tox. 4 (Dermal), H312 Acute Tox. 1 (Inhalation), H330 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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Name	Product identifier	%	GHS US classification
HEXACHLOROBENZENE (13C6, 99%)	CAS-No.: 118-74-1	0.00000279	Carc. 1B, H350 STOT RE 1, H372 Aquatic Chronic 1, H410
ALDRIN (13C12, 99%)	CAS-No.: 309-00-2 (Unlabeled)	0.00000279	Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
PENTACHLOROBENZENE (13C6, 99%)	CAS-No.: 608-93-5 (Unlabeled)	0.00000279	Flam. Sol. 1, H228 Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
DIELDRIN (13C12, 98-99%)	CAS-No.: 60-57-1 (Unlabeled)	0.00000279	Acute Tox. 1 (Oral), H300 Acute Tox. 3 (Dermal), H311 Acute Tox. 1 (Inhalation:dust,mist), H330 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
OXYCHLORDANE (13C10, 99%)	CAS-No.: 27304-13-8 (Unlabeled)	0.00000279	Acute Tox. 4 (Oral), H302
TRANS-NONACHLOR (13C10, 98%)	CAS-No.: 39765-80-5 (Unlabeled)	0.00000279	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
CIS-NONACHLOR (13C10, 98%)	CAS-No.: 5103-73-1 (Unlabeled)	0.00000279	Acute Tox. 4 (Oral), H302 Aquatic Chronic 1, H410
4,4'-DDE (RING-13C12, 99%)	CAS-No.: 72-55-9 (Unlabeled)	0.00000279	Acute Tox. 4 (Oral), H302 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,4'-DDT (RING-13C12, 99%)	CAS-No.: 789-02-6 (Unlabeled)	0.00000279	Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
4,4'-DDT (RING-13C12, 99%)	CAS-No.: 50-29-3	0.00000279	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Carc. 2, H351 STOT RE 1, H372 Aquatic Chronic 1, H410

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Name	Product identifier	%	GHS US classification
ENDRIN (13C12, 99%)	CAS-No.: 72-20-8 (Unlabeled)	0.00000279	Acute Tox. 1 (Oral), H300 Acute Tox. 2 (Dermal), H310 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
TRANS-CHLORDANE (GAMMA) (13C10, 99%)	CAS-No.: 5103-74-2 (Unlabeled)	0.00000279	Acute Tox. 4 (Oral), H302 Carc. 2, H351 Aquatic Acute 1, H400
2,4'-DDD (RING-13C12, 99%)	CAS-No.: 53-19-0 (Unlabeled)	0.00000279	Carc. 1B, H350
DELTA-BHC (13C6, 99%)	CAS-No.: 319-86-8 (Unlabeled)	0.00000279	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
MIREX (13C10, 98%)	CAS-No.: 2385-85-5 (Unlabeled)	0.00000279	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Carc. 2, H351 Repr. 2, H361 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
BETA-BHC (13C6, 99%)	CAS-No.: 319-85-7 (Unlabeled)	0.00000279	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
CIS-HEPTACHLOR EPOXIDE (13C10, 99%)	CAS-No.: 1024-57-3 (Unlabeled)	0.00000279	Acute Tox. 2 (Oral), H300 Carc. 2, H351 STOT RE 2, H373 Aquatic Acute 1, H400
HEPTACHLOR (13C10, 99%)	CAS-No.: 76-44-8 (Unlabeled)	0.00000279	Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Carc. 2, H351 Aquatic Chronic 1, H410
ENDOSULFAN II (CHEMICAL PURITY >95%) (13C9, 99%)	CAS-No.: 33213-65-9 (Unlabeled)	0.00000279	Acute Tox. 3 (Oral), H301 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
ENDOSULFAN I (13C9, 99%)	CAS-No.: 959-98-8 (Unlabeled)	0.00000279	Acute Tox. 1 (Oral), H300 Acute Tox. 4 (Dermal), H312 Acute Tox. 1 (Inhalation), H330 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
KEPONE (CHLORDECONE) (13C10, 99%)	CAS-No.: 143-50-0 (Unlabeled)	0.00000279	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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Name	Product identifier	%	GHS US classification
2,4'-DDE (RING- <sup>13</sup> C12, 99%)	CAS-No.: 3424-82-6 (Unlabeled)	0.00000279	Acute Tox. 4 (Oral), H302 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
ALPHA-HCH (ALPHA-BHC) ( <sup>13</sup> C6, 99%)	CAS-No.: 319-84-6	0.00000279	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
4,4'-DDD (RING- <sup>13</sup> C12, 99%)	CAS-No.: 72-54-8 (Unlabeled)	0.00000279	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,3',4',5'-TETRACB (PCB-70) ( <sup>13</sup> C12, 99%)	CAS-No.: 208263-81-4	0.00000279	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
4,4'-DICB (PCB-15) ( <sup>13</sup> C12, 99%)	CAS-No.: 208263-67-6	0.00000279	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
LINDANE ( <sup>13</sup> C6, 99%)	CAS-No.: 58-89-9 (Unlabeled)	0.00000279	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Lact., H362 STOT SE 2, H371 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
ISODRIN (CHEMICAL PURITY 95%) ( <sup>13</sup> C12, 99%)	CAS-No.: 465-73-6 (Unlabeled)	0.00000279	Acute Tox. 1 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 1 (Inhalation), H330 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
First-aid measures after skin contact	: Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Immediately call a poison center or doctor/physician.



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### 4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms	: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/effects	: May cause drowsiness or dizziness.
Symptoms/effects after inhalation	: Harmful if inhaled.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: May be fatal if swallowed and enters airways.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide. Alcohol resistant foam.

### 5.2. Specific hazards arising from the chemical

Fire hazard	: Flammable liquid and vapor.
Explosion hazard	: May form flammable/explosive vapor-air mixture.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

#### 6.1.1. For non-emergency personnel

Emergency procedures : Wear personal protective equipment. Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing fume, gas, mist, spray, vapors. Avoid contact with skin and eyes.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

For containment : For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal. Dike and contain spill. Dispose as hazardous waste. Comply with local regulations for disposal. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal.

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Methods for cleaning up	: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information	: Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed	: Handle empty containers with care because residual vapors are flammable.
Precautions for safe handling	: No open flames. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Use only outdoors or in a well-ventilated area.
Hygiene measures	: Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment.
Storage conditions	: Store at room temperature away from light and moisture.
Incompatible materials	: Heat sources.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/13C, 99%) IN NONANE/ISOOCTANE	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
Local name	Nonane
ACGIH OEL TWA [ppm]	200 ppm USA. ACGIH Threshold Limit Values (TLV)
Remark (ACGIH)	CNS impair
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>HEXACHLOROBENZENE (13C6, 99%) (118-74-1)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	0.002 mg/m <sup>3</sup> Central Nervous System impairment. Porphyrin effects. Skin damage. Confirmed animal carcinogen with unknown relevance to humans. Danger of cutaneous absorption. USA. ACGIH Threshold Limit Values (TLV)
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL C	0.002 mg/m <sup>3</sup> California permissible exposure limits for chemical contaminants (Title 8, Article 107) - Skin
<b>HEXACHLOROBENZENE UNLABELED (118-74-1)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	0 mg/m <sup>3</sup> Central Nervous System impairment. Porphyrin effects. Skin damage.

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<b>ALDRIN (13C12, 99%) (309-00-2 (Unlabeled))</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	0.05 mg/m <sup>3</sup> ACGIH Threshold Limit Values (TLV)
Remark (ACGIH)	Central Nervous System impairment Liver damage Kidney damage Confirmed animal carcinogen with unknown relevance to humans Danger of cutaneous absorption
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL TWA [1]	0.25 mg/m <sup>3</sup> USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA PEL STEL [1]	0.25 mg/m <sup>3</sup> California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Remark (OSHA)	Skin designation
<b>USA - NIOSH - Occupational Exposure Limits</b>	
NIOSH REL TWA	0.25 mg/m <sup>3</sup> USA. NIOSH Recommended Exposure Limits.
Remark (NIOSH)	Potential Occupational Carcinogen See Appendix A Potential for dermal absorption
<b>PENTACHLOROBENZENE (13C6, 99%) (608-93-5 (Unlabeled))</b>	
No additional information available	
<b>PENTACHLOROBENZENE UNLABELED (608-93-5 )</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>ALDRIN UNLABELED (309-00-2)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	0.05 mg/m <sup>3</sup> Skin contact does contribute to exposure. Confirmed animal carcinogen.
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL TWA [1]	0.25 mg/m <sup>3</sup> Skin notation
<b>DIELDRIN (13C12, 98-99%) (60-57-1 (Unlabeled))</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	0.25 mg/m <sup>3</sup> Liver damage. Central Nervous System convulsion. Danger of cutaneous absorption
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL TWA [1]	0.25 mg/m <sup>3</sup> Skin notation
<b>OXYCHLORDANE (13C10, 99%) (27304-13-8 (Unlabeled))</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>TRANS-NONACHLOR (13C10, 98%) (39765-80-5 (Unlabeled))</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.

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<b>CIS-NONACHLOR (13C10, 98%) (5103-73-1 (Unlabeled))</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>4,4'-DDE (RING-13C12, 99%) (72-55-9 (Unlabeled))</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>2,4'-DDT (RING-13C12, 99%) (789-02-6 (Unlabeled))</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>4,4'-DDT (RING-13C12, 99%) (50-29-3)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	1 mg/m <sup>3</sup> Liver damage. Confirmed animal carcinogen with unknown relevance to humans.
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL TWA [1]	1 mg/m <sup>3</sup> Skin designation
<b>USA - NIOSH - Occupational Exposure Limits</b>	
NIOSH REL TWA	0.5 mg/m <sup>3</sup> Potential Occupational Carcinogen
<b>ENDRIN (13C12, 99%) (72-20-8 (Unlabeled))</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	0.1 mg/m <sup>3</sup> Central Nervous System impairment, Headache, Liver damage
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL TWA [1]	0.1 mg/m <sup>3</sup> Danger of cutaneous absorption, not classifiable a a human carcinogen
<b>TRANS-CHLORDANE (GAMMA) (13C10, 99%) (5103-74-2 (Unlabeled))</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>2,4'-DDD (RING-13C12, 99%) (53-19-0 (Unlabeled))</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>2,4'-DDT UNLABELED (97% CHEMICAL PURITY) (789-02-6)</b>	
No additional information available	

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<b>DIELDRIN UNLABELED (60-57-1)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	0.25 mg/m <sup>3</sup> Liver damage. Central Nervous System convulsion. Danger of cutaneous absorption
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL TWA [1]	0.25 mg/m <sup>3</sup> Skin notation
<b>ENDRIN UNLABELED (72-20-8)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	0.1 mg/m <sup>3</sup> Central Nervous System impairment, Headache, Liver damage
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL TWA [1]	0.1 mg/m <sup>3</sup> Danger of cutaneous absorption, not classifiable a a human carcinogen
<b>4,4'-DDT UNLABELED (50-29-3 )</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	1 mg/m <sup>3</sup> Liver damage. Confirmed animal carcinogen with unknown relevance to humans.
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL TWA [1]	1 mg/m <sup>3</sup> Skin notation
<b>N-NONANE UNLABELED (111-84-2)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
Local name	Nonane
ACGIH OEL TWA [ppm]	200 ppm USA. ACGIH Threshold Limit Values (TLV)
Remark (ACGIH)	CNS impair
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL TWA [1]	1050 mg/m <sup>3</sup> USA. OSHA - Table Z-1 Limits for Air Contaminants - 1910.1000
OSHA PEL TWA [2]	200 ppm USA. OSHA - Table Z-1 Limits for Air Contaminants - 1910.1000
OSHA PEL C	1050 California permissible exposure limits for chemical contaminants.
OSHA PEL C [ppm]	200 ppm California permissible exposure limits for chemical contaminants.
<b>USA - NIOSH - Occupational Exposure Limits</b>	
NIOSH REL TWA	1050 mg/m <sup>3</sup> USA. NIOSH Recommended Exposure Limits
NIOSH REL TWA [ppm]	200 ppm USA. NIOSH Recommended Exposure Limits
Remark (NIOSH)	Central Nervous System impairment
<b>ISOOCTANE UNLABELED (540-84-1)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA [ppm]	300 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Remark (ACGIH)	Upper Respiratory Tract irritation

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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<b>ISOOCTANE UNLABELED (540-84-1)</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>DELTA-BHC (13C6, 99%) (319-86-8 (Unlabeled))</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>MIREX (13C10, 98%) (2385-85-5 (Unlabeled))</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>BETA-BHC (13C6, 99%) (319-85-7 (Unlabeled))</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>CIS-HEPTACHLOR EPOXIDE (13C10, 99%) (1024-57-3 (Unlabeled))</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>HEPTACHLOR (13C10, 99%) (76-44-8 (Unlabeled))</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible, or confirmed human carcinogen by IARC.
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL TWA [1]	0.5 mg/m <sup>3</sup> USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants. California permissible exposure limits for chemical contaminants (Title 8, Article 107)
<b>USA - NIOSH - Occupational Exposure Limits</b>	
NIOSH REL TWA	0.5 mg/m <sup>3</sup> USA. NIOSH Recommended Exposure Limits
Remark (NIOSH)	Potential Occupational Carcinogen. See Appendix A. Potential for dermal absorption.
<b>ENDOSULFAN II (CHEMICAL PURITY &gt;95%) (13C9, 99%) (33213-65-9 (Unlabeled))</b>	
No additional information available	
<b>ENDOSULFAN I (13C9, 99%) (959-98-8 (Unlabeled))</b>	
No additional information available	
<b>KEPONE (CHLORDECONE) (13C10, 99%) (143-50-0 (Unlabeled))</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.

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<b>2,4'-DDE (RING-13C12, 99%) (3424-82-6 (Unlabeled))</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>ALPHA-HCH (ALPHA-BHC) (13C6, 99%) (319-84-6)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>4,4'-DDD (RING-13C12, 99%) (72-54-8 (Unlabeled))</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>LINDANE UNLABELED (58-89-9)</b>	
No additional information available	
<b>2,3',4',5'-TETRACB (PCB-70) (13C12, 99%) (208263-81-4)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>4,4'-DICB (PCB-15) (13C12, 99%) (208263-67-6)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>MIREX UNLABELED (2385-85-5)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>ALPHA-BHC UNLABELED (319-84-6 )</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>DELTA-BHC UNLABELED (319-86-8)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>HEPTACHLOR UNLABELED (76-44-8)</b>	
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL TWA [1]	0.5 mg/m <sup>3</sup> USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants. California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Remark (OSHA)	Skin designation

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/13C, 99%) IN NONANE/ISOOCTANE

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<b>HEPTACHLOR UNLABELED (76-44-8)</b>	
<b>USA - NIOSH - Occupational Exposure Limits</b>	
NIOSH REL TWA	0.5 mg/m <sup>3</sup> USA. NIOSH Recommended Exposure Limits
Remark (NIOSH)	Potential Occupational Carcinogen. See Appendix A. Potential for dermal absorption.
<b>CIS-CHLORDANE(ALPHA) UNLABELED (5103-71-9)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>TRANS-NONACHLOR UNLABELED (39765-80-5)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>CIS-NONACHLOR UNLABELED (5103-73-1)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>CIS-HEPTACHLOR EPOXIDE UNLABELED (1024-57-3 )</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>TRANS-CHLORDANE (GAMMA) UNLABELED (5103-74-2)</b>	
No additional information available	
<b>2,4'-DDD UNLABELED (53-19-0)</b>	
No additional information available	
<b>2,4'-DDE UNLABELED (3424-82-6)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>4,4'-DDD UNLABELED (72-54-8)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
<b>TRANS-HEPTACHLOR EPOXIDE UNLABELED (28044-83-9)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.



# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/13C, 99%) IN NONANE/ISOOCTANE

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BETA-BHC UNLABELED (319-85-7)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
OXYCHLORDANE UNLABELED (27304-13-8)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
KEPONE (CHLORDECONE) UNLABELED (143-50-0)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL TWA	0.001 mg/m <sup>3</sup> Remarks: Potential Occupational Carcinogen ; USA. NIOSH Recommended Exposure Limits
ENDOSULFAN I UNLABELED (959-98-8)	
No additional information available	
LINDANE (13C6, 99%) (58-89-9 (Unlabeled))	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	0.5 mg/m <sup>3</sup>
ISODRIN (CHEMICAL PURITY 95%) (13C12, 99%) (465-73-6 (Unlabeled))	
USA - ACGIH - Occupational Exposure Limits	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
4,4'-DDE UNLABELED (72-55-9)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
ENDOSULFAN II UNLABELED (33213-65-9)	
No additional information available	

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.  
Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Protective clothing. Protective goggles. Gloves. Self-contained breathing apparatus.

#### Materials for protective clothing:

Wear suitable protective clothing and gloves

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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<b>Hand protection:</b>
Wear suitable protective clothing and gloves
<b>Eye protection:</b>
Chemical goggles or face shield. Chemical goggles or safety glasses
<b>Skin and body protection:</b>
Wear suitable protective clothing
<b>Respiratory protection:</b>
Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Wear respiratory protection.

### Personal protective equipment symbol(s):



## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid, clear.
Color	: Colorless
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: -53 °C (- 63 °F) - lit
Boiling point	: 151 °C (304 °F) - lit
Flash point	: 31 °C (87.8 °F) - closed cup
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: 5.69 hPa (4.27 mmHg) at 25 °C (77 °F)
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Density	: 0.718 g/ml at 25 °C (77 °F)
Molecular mass	: 128.3 g/mol
Solubility	: Water: 0.0002 %
Partition coefficient n-octanol/water (Log Pow)	: 5.65
Auto-ignition temperature	: 205 °C (401 °F)
Decomposition temperature	: No data available
Viscosity, kinematic	: ≤ 1.008 mm <sup>2</sup> /s at 20 °C (68 °F)
Viscosity, dynamic	: No data available
Explosion limits	: 0.87 – 2.9 % (V)
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

No additional information available

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Flammable liquid and vapor. Vapors may form flammable mixture with air.

#### 10.2. Chemical stability

See storage and expiration date on CoA.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

Open flame. Overheating. Direct sunlight. Heat. Sparks.

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

May release flammable gases.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Harmful if inhaled.

EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/ <sup>13</sup> C, 99%) IN NONANE/ISOOCTANE	
LC50 Inhalation - Rat	23760 mg/m <sup>3</sup> male - 4 h
ATE US (gases)	3200 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h
Additional data	Skin corrosion/irritation, Dermal, rat: Result: Skin Irritation (Draize Test) S. Typhimurium Result negative

#### HEXACHLOROBENZENE (<sup>13</sup>C<sub>6</sub>, 99%) (118-74-1)

LD50 oral rat	10000 mg/kg
LD50 oral	> 3000 mg/kg Guinea pig
LC50 Inhalation - Rat	3600 mg/m <sup>3</sup>
Additional information	LD50 Oral Mouse - 1760 mg/kg

#### HEXACHLOROBENZENE UNLABELED (118-74-1)

LD50 oral rat	10000 mg/kg
LC50 Inhalation - Rat	3600 mg/m <sup>3</sup>
ATE US (oral)	10000 mg/kg body weight

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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<b>HEXACHLOROBENZENE UNLABELED (118-74-1)</b>	
ATE US (vapors)	3.6 mg/l/4h
ATE US (dust, mist)	3.6 mg/l/4h
<b>ALDRIN (13C12, 99%) (309-00-2 (Unlabeled))</b>	
LD50 oral rat	39 mg/kg
LD50 dermal rat	15 mg/kg Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Olfaction:Other changes. Behavioral:Convulsions or effect on seizure threshold. Behavioral:Excitement.
ATE US (oral)	39 mg/kg body weight
ATE US (dermal)	15 mg/kg body weight
<b>PENTACHLOROBENZENE (13C6, 99%) (608-93-5 (Unlabeled))</b>	
LD50 oral rat	1080 mg/kg Remarks: Behavioral:General anesthetic. Behavioral:Tremor.
LD50 dermal	> 2500 mg/kg - Rat
ATE US (oral)	500 mg/kg body weight
<b>PENTACHLOROBENZENE UNLABELED (608-93-5)</b>	
LD50 oral rat	1080 mg/kg
ATE US (oral)	1080 mg/kg body weight
<b>ALDRIN UNLABELED (309-00-2)</b>	
LD50 oral rat	39 mg/kg
ATE US (oral)	39 mg/kg body weight
ATE US (dermal)	5 mg/kg body weight
<b>DIELDRIN (13C12, 98-99%) (60-57-1 (Unlabeled))</b>	
LD50 dermal rabbit	250 mg/kg
LC50 Inhalation - Rat	13 mg/m <sup>3</sup> 4 h
ATE US (oral)	0.5 mg/kg body weight
ATE US (dermal)	250 mg/kg body weight
ATE US (vapors)	0.013 mg/l/4h
ATE US (dust, mist)	0.013 mg/l/4h
<b>OXYCHLORDANE (13C10, 99%) (27304-13-8 (Unlabeled))</b>	
LD50 oral rat	457 mg/kg
ATE US (oral)	457 mg/kg body weight
<b>TRANS-NONACHLOR (13C10, 98%) (39765-80-5 (Unlabeled))</b>	
LD50 oral rat	500 mg/kg
ATE US (oral)	500 mg/kg body weight
<b>CIS-NONACHLOR (13C10, 98%) (5103-73-1 (Unlabeled))</b>	
ATE US (oral)	500 mg/kg body weight

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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<b>4,4'-DDE (RING-<sup>13</sup>C12, 99%) (72-55-9 (Unlabeled))</b>	
LD50 oral rat	880 mg/kg
ATE US (oral)	880 mg/kg body weight
<b>2,4'-DDT (RING-<sup>13</sup>C12, 99%) (789-02-6 (Unlabeled))</b>	
ATE US (oral)	100 mg/kg body weight
<b>4,4'-DDT (RING-<sup>13</sup>C12, 99%) (50-29-3)</b>	
LD50 oral rat	87 mg/kg
LD50 dermal rabbit	300 mg/kg Remarks: Behavioral:Tremor. Behavioral:Muscle weakness. Behavioral:Ataxia.
ATE US (oral)	87 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
<b>ENDRIN (<sup>13</sup>C12, 99%) (72-20-8 (Unlabeled))</b>	
LD50 oral rat	3 mg/kg
LD50 dermal rabbit	60 mg/kg
ATE US (oral)	3 mg/kg body weight
ATE US (dermal)	60 mg/kg body weight
<b>TRANS-CHLORDANE (GAMMA) (<sup>13</sup>C10, 99%) (5103-74-2 (Unlabeled))</b>	
LD50 oral rat	1100 mg/kg
ATE US (oral)	1100 mg/kg body weight
<b>2,4'-DDD (RING-<sup>13</sup>C12, 99%) (53-19-0 (Unlabeled))</b>	
LD50 oral rat	> 5000 mg/kg
<b>2,4'-DDT UNLABELED (97% CHEMICAL PURITY) (789-02-6)</b>	
LD50 oral	Intraperitoneal-mouse - 1,577mg/kg Tremor,Convulsions,Seizure threshold,Excitement
ATE US (oral)	100 mg/kg body weight
<b>DIELDRIN UNLABELED (60-57-1)</b>	
LD50 oral rat	38.3 mg/kg
ATE US (oral)	5 mg/kg body weight
ATE US (dermal)	5 mg/kg body weight
<b>ENDRIN UNLABELED (72-20-8)</b>	
LD50 oral rat	3 mg/kg
LD50 dermal rabbit	60 mg/kg
ATE US (oral)	3 mg/kg body weight
ATE US (dermal)	60 mg/kg body weight
<b>4,4'-DDT UNLABELED (50-29-3)</b>	
LD50 oral rat	87 mg/kg
LD50 dermal rabbit	300 mg/kg

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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<b>4,4'-DDT UNLABELED (50-29-3)</b>	
ATE US (oral)	87 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
<b>N-NONANE UNLABELED (111-84-2)</b>	
LC50 Inhalation - Rat	23760 mg/m <sup>3</sup> male - 4 h
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h
Skin corrosion/irritation, Dermal, rat	Result: Skin Irritation (Draize Test)
Additional information	: S. Typhimurium Result: negative
<b>ISOOCTANE UNLABELED (540-84-1)</b>	
LD50 oral rat	> 5000 mg/kg (OECD Test Guideline 401)
LD50 dermal rabbit	> 2000 mg/kg (OECD Test Guideline 402)
LC50 Inhalation - Rat	> 33.52 mg/l/4h (OECD Test Guideline 403)
<b>DELTA-BHC (13C6, 99%) (319-86-8 (Unlabeled))</b>	
LD50 oral rat	1000 mg/kg
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
<b>MIREX (13C10, 98%) (2385-85-5 (Unlabeled))</b>	
LD50 oral rat	235 mg/kg
LD50 dermal rabbit	800 mg/kg
ATE US (oral)	235 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
<b>BETA-BHC (13C6, 99%) (319-85-7 (Unlabeled))</b>	
LD50 oral rat	6000 mg/kg
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
<b>CIS-HEPTACHLOR EPOXIDE (13C10, 99%) (1024-57-3 (Unlabeled))</b>	
LD50 oral rat	15 mg/kg
ATE US (oral)	15 mg/kg body weight
<b>HEPTACHLOR (13C10, 99%) (76-44-8 (Unlabeled))</b>	
LD50 oral rat	40 mg/kg
LD50 dermal rat	119 mg/kg
ATE US (oral)	40 mg/kg body weight
ATE US (dermal)	5 mg/kg body weight

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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<b>ENDOSULFAN II (CHEMICAL PURITY &gt;95%) (13C9, 99%) (33213-65-9 (Unlabeled))</b>	
LD50 oral rat	240 mg/kg
ATE US (oral)	240 mg/kg body weight
<b>ENDOSULFAN I (13C9, 99%) (959-98-8 (Unlabeled))</b>	
ATE US (oral)	0.5 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
ATE US (gases)	10 ppmV/4h
ATE US (vapors)	0.05 mg/l/4h
ATE US (dust, mist)	0.005 mg/l/4h
<b>KEPONE (CHLORDECONE) (13C10, 99%) (143-50-0 (Unlabeled))</b>	
LD50 oral rat	91.3 mg/kg
LD50 dermal rabbit	345 mg/kg
ATE US (oral)	91.3 mg/kg body weight
ATE US (dermal)	345 mg/kg body weight
<b>2,4'-DDE (RING-13C12, 99%) (3424-82-6 (Unlabeled))</b>	
LD50 oral rat	880 mg/kg
ATE US (oral)	880 mg/kg body weight
<b>ALPHA-HCH (ALPHA-BHC) (13C6, 99%) (319-84-6)</b>	
LD50 oral rat	177 mg/kg
ATE US (oral)	177 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
<b>4,4'-DDD (RING-13C12, 99%) (72-54-8 (Unlabeled))</b>	
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
<b>LINDANE UNLABELED (58-89-9)</b>	
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h
<b>MIREX UNLABELED (2385-85-5)</b>	
LD50 oral rat	235 mg/kg
ATE US (oral)	235 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
<b>ALPHA-BHC UNLABELED (319-84-6)</b>	
LD50 oral rat	177 mg/kg

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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<b>ALPHA-BHC UNLABELED (319-84-6)</b>	
ATE US (oral)	177 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
<b>DELTA-BHC UNLABELED (319-86-8)</b>	
LD50 oral rat	1000 mg/kg
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
<b>HEPTACHLOR UNLABELED (76-44-8)</b>	
LD50 oral rat	40 mg/kg
LD50 dermal rat	119 mg/kg
ATE US (oral)	40 mg/kg body weight
ATE US (dermal)	5 mg/kg body weight
<b>CIS-CHLORDANE(ALPHA) UNLABELED (5103-71-9)</b>	
LD50 oral rat	500 mg/kg
ATE US (oral)	500 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h
<b>TRANS-NONACHLOR UNLABELED (39765-80-5)</b>	
LD50 oral rat	500 mg/kg
ATE US (oral)	500 mg/kg body weight
<b>CIS-NONACHLOR UNLABELED (5103-73-1)</b>	
ATE US (oral)	500 mg/kg body weight
<b>CIS-HEPTACHLOR EPOXIDE UNLABELED (1024-57-3)</b>	
LD50 oral rat	15 mg/kg
ATE US (oral)	15 mg/kg body weight
<b>TRANS-CHLORDANE (GAMMA) UNLABELED (5103-74-2)</b>	
LD50 oral rat	1100 mg/kg
LD50 oral	275 mg/kg mouse
ATE US (oral)	1100 mg/kg body weight
<b>2,4'-DDD UNLABELED (53-19-0)</b>	
LD50 oral rat	> 5000 mg/kg
<b>2,4'-DDE UNLABELED (3424-82-6)</b>	
LD50 oral rat	880 mg/kg



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<b>2,4'-DDE UNLABELED (3424-82-6)</b>	
ATE US (oral)	880 mg/kg body weight
<b>4,4'-DDD UNLABELED (72-54-8)</b>	
LD50 oral	> 5000 mg/kg - Hamster
LD50 dermal	1200 mg/kg - Rabbit. Remarks: Behavioral:Excitement. Behavioral:Convulsions or effect on seizure threshold. Skin irritation
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
<b>TRANS-HEPTACHLOR EPOXIDE UNLABELED (28044-83-9)</b>	
LD50 oral rat	15 mg/kg
ATE US (oral)	15 mg/kg body weight
<b>BETA-BHC UNLABELED (319-85-7)</b>	
LD50 oral rat	6000 mg/kg
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
<b>OXYCHLORDANE UNLABELED (27304-13-8)</b>	
LD50 oral rat	457 mg/kg
ATE US (oral)	457 mg/kg body weight
<b>KEPONE (CHLORDECONE) UNLABELED (143-50-0)</b>	
LD50 oral rat	91.3 mg/kg
LD50 dermal rabbit	345 mg/kg
ATE US (oral)	91.3 mg/kg body weight
ATE US (dermal)	345 mg/kg body weight
<b>ENDOSULFAN I UNLABELED (959-98-8)</b>	
ATE US (oral)	0.5 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
ATE US (gases)	10 ppmV/4h
ATE US (vapors)	0.05 mg/l/4h
ATE US (dust, mist)	0.005 mg/l/4h
<b>LINDANE (<sup>13</sup>C<sub>6</sub>, 99%) (58-89-9 (Unlabeled))</b>	
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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<b>ISODRIN (CHEMICAL PURITY 95%) (<sup>13</sup>C<sub>12</sub>, 99%) (465-73-6 (Unlabeled))</b>	
LD50 oral rat	7 mg/kg
LD50 dermal rat	23 mg/kg
ATE US (oral)	0.5 mg/kg body weight
ATE US (dermal)	23 mg/kg body weight
ATE US (gases)	10 ppmV/4h
ATE US (vapors)	0.05 mg/l/4h
ATE US (dust, mist)	0.005 mg/l/4h
<b>4,4'-DDE UNLABELED (72-55-9)</b>	
LD50 oral rat	880 mg/kg
ATE US (oral)	880 mg/kg body weight
<b>ENDOSULFAN II UNLABELED (33213-65-9)</b>	
LD50 oral rat	240 mg/kg
ATE US (oral)	240 mg/kg body weight
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
<b>HEXACHLOROBENZENE (<sup>13</sup>C<sub>6</sub>, 99%) (118-74-1)</b>	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
<b>HEXACHLOROBENZENE UNLABELED (118-74-1)</b>	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
<b>ALDRIN (<sup>13</sup>C<sub>12</sub>, 99%) (309-00-2 (Unlabeled))</b>	
IARC group	3 - Not classifiable
<b>ALDRIN UNLABELED (309-00-2)</b>	
IARC group	2A - Probably carcinogenic to humans
<b>DIELDRIN (<sup>13</sup>C<sub>12</sub>, 98-99%) (60-57-1 (Unlabeled))</b>	
IARC group	3 - Not classifiable
<b>4,4'-DDT (RING-<sup>13</sup>C<sub>12</sub>, 99%) (50-29-3)</b>	
IARC group	2A - Probably carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
<b>ENDRIN (<sup>13</sup>C<sub>12</sub>, 99%) (72-20-8 (Unlabeled))</b>	
IARC group	3 - Not classifiable

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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<b>TRANS-CHLORDANE (GAMMA) (13C10, 99%) (5103-74-2 (Unlabeled))</b>	
IARC group	2B - Possibly carcinogenic to humans
<b>2,4'-DDD (RING-13C12, 99%) (53-19-0 (Unlabeled))</b>	
IARC group	2B - Possibly carcinogenic to humans
<b>DIELDRIN UNLABELED (60-57-1)</b>	
IARC group	2A - Probably carcinogenic to humans
<b>ENDRIN UNLABELED (72-20-8)</b>	
IARC group	3 - Not classifiable
<b>4,4'-DDT UNLABELED (50-29-3)</b>	
IARC group	2A - Probably carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
<b>DELTA-BHC (13C6, 99%) (319-86-8 (Unlabeled))</b>	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
<b>MIREX (13C10, 98%) (2385-85-5 (Unlabeled))</b>	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
<b>BETA-BHC (13C6, 99%) (319-85-7 (Unlabeled))</b>	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
<b>CIS-HEPTACHLOR EPOXIDE (13C10, 99%) (1024-57-3 (Unlabeled))</b>	
IARC group	2B - Possibly carcinogenic to humans
<b>HEPTACHLOR (13C10, 99%) (76-44-8 (Unlabeled))</b>	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
<b>KEPONE (CHLORDECONE) (13C10, 99%) (143-50-0 (Unlabeled))</b>	
IARC group	2B - Possibly carcinogenic to humans
<b>2,4'-DDE (RING-13C12, 99%) (3424-82-6 (Unlabeled))</b>	
IARC group	2B - Possibly carcinogenic to humans
<b>ALPHA-HCH (ALPHA-BHC) (13C6, 99%) (319-84-6)</b>	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
<b>LINDANE UNLABELED (58-89-9)</b>	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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<b>2,3',4',5-TETRACB (PCB-70) (<sup>13</sup>C12, 99%) (208263-81-4)</b>	
IARC group	2A - Probably carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
<b>MIREX UNLABELED (2385-85-5)</b>	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
<b>ALPHA-BHC UNLABELED (319-84-6)</b>	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
<b>DELTA-BHC UNLABELED (319-86-8)</b>	
IARC group	2B - Possibly carcinogenic to humans
<b>HEPTACHLOR UNLABELED (76-44-8)</b>	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
<b>CIS-CHLORDANE(ALPHA) UNLABELED (5103-71-9)</b>	
IARC group	2B - Possibly carcinogenic to humans
<b>CIS-HEPTACHLOR EPOXIDE UNLABELED (1024-57-3)</b>	
IARC group	2B - Possibly carcinogenic to humans
<b>TRANS-CHLORDANE (GAMMA) UNLABELED (5103-74-2)</b>	
IARC group	2B - Possibly carcinogenic to humans
<b>2,4'-DDD UNLABELED (53-19-0)</b>	
IARC group	2B - Possibly carcinogenic to humans
<b>2,4'-DDE UNLABELED (3424-82-6)</b>	
IARC group	2B - Possibly carcinogenic to humans
<b>4,4'-DDD UNLABELED (72-54-8)</b>	
IARC group	2A - Probably carcinogenic to humans
<b>BETA-BHC UNLABELED (319-85-7)</b>	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
<b>KEPONE (CHLORDECONE) UNLABELED (143-50-0)</b>	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
<b>ISODRIN (CHEMICAL PURITY 95%) (<sup>13</sup>C12, 99%) (465-73-6 (Unlabeled))</b>	
National Toxicology Program (NTP) Status	No component of this product present at levels greater than or equal to 0.1 % is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity : Not classified

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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STOT-single exposure : May cause drowsiness or dizziness.

<b>HEXACHLOROBENZENE UNLABELED (118-74-1)</b>	
STOT-single exposure	Causes damage to organs (liver) (Dermal, Inhalation, oral).
<b>TRANS-NONACHLOR (13C10, 98%) (39765-80-5 (Unlabeled))</b>	
STOT-single exposure	May cause respiratory irritation.
<b>2,4'-DDT (RING-13C12, 99%) (789-02-6 (Unlabeled))</b>	
STOT-single exposure	May cause respiratory irritation.
<b>4,4'-DDT UNLABELED (50-29-3)</b>	
STOT-single exposure	Causes damage to organs (liver, pancreas) (Dermal, Inhalation, oral).
<b>N-NONANE UNLABELED (111-84-2)</b>	
STOT-single exposure	May cause drowsiness or dizziness.
<b>ISOOCTANE UNLABELED (540-84-1)</b>	
STOT-single exposure	May cause drowsiness or dizziness.
<b>CIS-CHLORDANE(ALPHA) UNLABELED (5103-71-9)</b>	
STOT-single exposure	May cause respiratory irritation.
<b>TRANS-NONACHLOR UNLABELED (39765-80-5)</b>	
STOT-single exposure	May cause respiratory irritation.
<b>LINDANE (13C6, 99%) (58-89-9 (Unlabeled))</b>	
STOT-single exposure	May cause damage to organs (central nervous system) (Dermal, Inhalation, oral).
STOT-repeated exposure	: Not classified
<b>HEXACHLOROBENZENE (13C6, 99%) (118-74-1)</b>	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure (Dermal, Inhalation, oral).
<b>ALDRIN (13C12, 99%) (309-00-2 (Unlabeled))</b>	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.
<b>ALDRIN UNLABELED (309-00-2)</b>	
STOT-repeated exposure	Causes damage to organs (central nervous system, genital organs, kidneys, liver) through prolonged or repeated exposure (Dermal, Inhalation, oral).
<b>DIELDRIN (13C12, 98-99%) (60-57-1 (Unlabeled))</b>	
STOT-repeated exposure	Causes damage to organs (central nervous system, liver, blood) through prolonged or repeated exposure (Dermal, Inhalation, oral).
<b>2,4'-DDT (RING-13C12, 99%) (789-02-6 (Unlabeled))</b>	
STOT-repeated exposure	Causes damage to organs (genital organs) through prolonged or repeated exposure (Dermal, Inhalation, oral).
<b>4,4'-DDT (RING-13C12, 99%) (50-29-3)</b>	
STOT-repeated exposure	Causes damage to organs (liver, pancreas) through prolonged or repeated exposure (Dermal, Inhalation, oral).

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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<b>2,4'-DDT UNLABELED (97% CHEMICAL PURITY) (789-02-6)</b>	
STOT-repeated exposure	Causes damage to organs (central nervous system) through prolonged or repeated exposure (Dermal, Inhalation, oral).
<b>DIELDRIN UNLABELED (60-57-1)</b>	
STOT-repeated exposure	Causes damage to organs (blood, central nervous system, liver) through prolonged or repeated exposure (Dermal, Inhalation, oral).
<b>4,4'-DDT UNLABELED (50-29-3)</b>	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.
<b>CIS-HEPTACHLOR EPOXIDE (13C10, 99%) (1024-57-3 (Unlabeled))</b>	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
<b>LINDANE UNLABELED (58-89-9)</b>	
STOT-repeated exposure	May cause damage to organs (central nervous system) through prolonged or repeated exposure (Dermal, Inhalation, oral).
<b>2,3',4',5-TETRACB (PCB-70) (13C12, 99%) (208263-81-4)</b>	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure (Dermal, Inhalation, oral).
<b>4,4'-DICB (PCB-15) (13C12, 99%) (208263-67-6)</b>	
STOT-repeated exposure	May cause damage to organs (kidneys, liver) through prolonged or repeated exposure (Dermal, Inhalation, oral).
<b>CIS-HEPTACHLOR EPOXIDE UNLABELED (1024-57-3)</b>	
STOT-repeated exposure	May cause damage to organs (blood, liver, brain) through prolonged or repeated exposure (Dermal, Inhalation, oral).
<b>TRANS-HEPTACHLOR EPOXIDE UNLABELED (28044-83-9)</b>	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure (Dermal, Inhalation, oral).
Aspiration hazard	: May be fatal if swallowed and enters airways.
Viscosity, kinematic	: ≤ 1.008 mm <sup>2</sup> /s at 20 °C (68 °F)
<b>N-NONANE UNLABELED (111-84-2)</b>	
Viscosity, kinematic	≤ 1.008 mm <sup>2</sup> /s at 20 °C (68 °F)
<b>ENDOSULFAN II (CHEMICAL PURITY &gt;95%) (13C9, 99%) (33213-65-9 (Unlabeled))</b>	
Viscosity, kinematic	Not applicable
<b>ENDOSULFAN I (13C9, 99%) (959-98-8 (Unlabeled))</b>	
Viscosity, kinematic	Not applicable
<b>ENDOSULFAN I UNLABELED (959-98-8)</b>	
Viscosity, kinematic	Not applicable
<b>ENDOSULFAN II UNLABELED (33213-65-9)</b>	
Viscosity, kinematic	Not applicable

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Potential Adverse human health effects and symptoms	: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/effects	: May cause drowsiness or dizziness.
Symptoms/effects after inhalation	: Harmful if inhaled.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: May be fatal if swallowed and enters airways.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water : Harmful to aquatic life with long lasting effects.

<b>HEXACHLOROBENZENE (13C6, 99%) (118-74-1)</b>	
LC50 - Fish [1]	7.6 mg/l <i>Lepomis macrochirus</i> (Bluegill) - 96 h
EC50 - Other aquatic organisms [1]	> 0.005 mg/l <i>Daphnia magna</i> (Water flea) - 48 h
NOEC (chronic)	> 0.0048 mg/l <i>Pimephales promelas</i> (fathead minnow) - 96 h
<b>HEXACHLOROBENZENE UNLABELED (118-74-1)</b>	
LC50 - Fish [1]	7.6 mg/l <i>Lepomis macrochirus</i> (Bluegill) -96h
EC50 - Crustacea [1]	> 0.005 mg/l <i>Daphnia magna</i> (Water flea) -48h
NOEC (chronic)	> 0.0048 mg/l <i>Pimephales promelas</i> (fathead minnow) -96h
<b>ALDRIN (13C12, 99%) (309-00-2 (Unlabeled))</b>	
LC50 - Fish [1]	0.01 mg/l <i>Oncorhynchus mykiss</i> (rainbow trout) - 96 h
EC50 - Crustacea [1]	0.03 mg/l <i>Daphnia magna</i> (Water flea) - 48 h
<b>PENTACHLOROBENZENE (13C6, 99%) (608-93-5 (Unlabeled))</b>	
LC50 - Fish [1]	0.247 mg/l - <i>Pimephales promelas</i> (fathead minnow)- 96.0 h
<b>PENTACHLOROBENZENE UNLABELED (608-93-5)</b>	
LC50 - Fish [1]	0.247 mg/l <i>Pimephales promelas</i> (fathead minnow) -96h
<b>ALDRIN UNLABELED (309-00-2)</b>	
LC50 - Fish [1]	0.01 mg/l <i>Oncorhynchus mykiss</i> (rainbow trout) - 96 h
EC50 - Crustacea [1]	0.03 mg/l <i>Daphnia magna</i> (Water flea) - 48 h
<b>DIELDRIN (13C12, 98-99%) (60-57-1 (Unlabeled))</b>	
LC50 - Fish [1]	1.6 mg/l <i>Carassius auratus</i> (goldfish) - 96 h
EC50 - Crustacea [1]	79.5 mg/l <i>Daphnia magna</i> (Water flea) - 48 h
<b>TRANS-NONACHLOR (13C10, 98%) (39765-80-5 (Unlabeled))</b>	
EC50 - Crustacea [1]	0.022 mg/l <i>Daphnia pulex</i> (Water flea) - 48 h
<b>4,4'-DDE (RING-13C12, 99%) (72-55-9 (Unlabeled))</b>	
LC50 - Fish [1]	0.2 – 0.3 mg/l <i>Lepomis macrochirus</i> (Bluegill) - 96 h
LC50 - Other aquatic organisms [1]	0.05 – 0.18 mg/l <i>Salmo salar</i> (Atlantic salmon) - 96 h

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<b>4,4'-DDE (RING-<sup>13</sup>C<sub>12</sub>, 99%) (72-55-9 (Unlabeled))</b>	
LC50 - Fish [2]	0.03 – 0.04 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h
<b>2,4'-DDT (RING-<sup>13</sup>C<sub>12</sub>, 99%) (789-02-6 (Unlabeled))</b>	
LC50 - Fish [1]	0.03 mg/l Other fish - 24 h
<b>4,4'-DDT (RING-<sup>13</sup>C<sub>12</sub>, 99%) (50-29-3)</b>	
LC50 - Fish [1]	0.01 mg/l Pimephales promelas (fathead minnow) - 96 h
LC50 - Other aquatic organisms [1]	0.01 mg/l Lepomis macrochirus (Bluegill) - 96.0 h
EC50 - Crustacea [1]	0.00108 mg/l Daphnia magna (Water flea) - 48 h
LC50 - Fish [2]	0.0034 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h
ErC50 other aquatic plants	> 20 mg/l Scenedesmus quadricauda (Green algae) - 7 d
LOEC (chronic)	150 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h
NOEC (chronic)	113 mg/l Oncorhynchus mykiss (rainbow trout) - 3 d
<b>ENDRIN (<sup>13</sup>C<sub>12</sub>, 99%) (72-20-8 (Unlabeled))</b>	
LC50 - Fish [1]	< 0.001 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h
EC50 - Crustacea [1]	≥ 0.02 mg/l Daphnia pulex (Water flea) - 48 h
<b>TRANS-CHLORDANE (GAMMA) (<sup>13</sup>C<sub>10</sub>, 99%) (5103-74-2 (Unlabeled))</b>	
LC50 - Fish [1]	0.05 mg/l Lepomis macrochirus - 96 h
<b>2,4'-DDT UNLABELED (97% CHEMICAL PURITY) (789-02-6)</b>	
LC50 - Fish [1]	0.03 mg/l Other fish - 24 h
<b>DIELDRIN UNLABELED (60-57-1)</b>	
LC50 - Fish [1]	1.6 mg/l Carassius auratus (goldfish) - 96 h
EC50 - Crustacea [1]	79.5 mg/l Daphnia magna (Water flea) - 48 h
<b>ENDRIN UNLABELED (72-20-8)</b>	
LC50 - Fish [1]	< 0.001 mg/l Oncorhynchus mykiss (rainbow trout) -96h
EC50 - Crustacea [1]	0.02 mg/l Daphnia pulex (Water flea) -48h
<b>4,4'-DDT UNLABELED (50-29-3)</b>	
LC50 - Fish [1]	0.01 mg/l Pimephales promelas (fathead minnow) - 96 h
EC50 - Crustacea [1]	0.00108 mg/l Daphnia magna (Water flea) - 48 h
ErC50 algae	> 20 mg/l Scenedesmus quadricauda (Green Algae) - 7 d
ErC50 other aquatic plants	113 mg/l Oncorhynchus mykiss (rainbow trout) - 3 d
NOEC (chronic)	113 mg/l Oncorhynchus mykiss (rainbow trout) - 3 d
<b>DELTA-BHC (<sup>13</sup>C<sub>6</sub>, 99%) (319-86-8 (Unlabeled))</b>	
LC50 - Fish [1]	2.83 mg/l Other fish - 96 h
<b>MIREX (<sup>13</sup>C<sub>10</sub>, 98%) (2385-85-5 (Unlabeled))</b>	
LC50 - Fish [1]	0.023 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h



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<b>MIREX (<sup>13</sup>C10, 98%) (2385-85-5 (Unlabeled))</b>	
EC50 - Crustacea [1]	2.6 mg/l Daphnia magna (Water flea) - 48 h
<b>BETA-BHC (<sup>13</sup>C6, 99%) (319-85-7 (Unlabeled))</b>	
LC50 - Fish [1]	1.6 mg/l Poecilia reticulata (guppy) - 96 h
<b>CIS-HEPTACHLOR EPOXIDE (<sup>13</sup>C10, 99%) (1024-57-3 (Unlabeled))</b>	
LC50 - Fish [1]	0.02 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h
EC50 - Crustacea [1]	0.24 mg/l Daphnia magna (Water flea) - 48 h
<b>HEPTACHLOR (<sup>13</sup>C10, 99%) (76-44-8 (Unlabeled))</b>	
LC50 - Fish [1]	0.007 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h
EC50 - Crustacea [1]	0.078 mg/l Daphnia magna (Water flea) - 48 h
<b>ENDOSULFAN II (CHEMICAL PURITY &gt;95%) (<sup>13</sup>C9, 99%) (33213-65-9 (Unlabeled))</b>	
LC50 - Fish [1]	0.0066 mg/l Other fish - 96 h
EC50 - Crustacea [1]	0.1 – 1 mg/l Daphnia magna (Water flea) - 48 h
<b>ENDOSULFAN I (<sup>13</sup>C9, 99%) (959-98-8 (Unlabeled))</b>	
LC50 - Fish [1]	0.2 µg/l Other fish - 21 d
<b>KEPONE (CHLORDECONE) (<sup>13</sup>C10, 99%) (143-50-0 (Unlabeled))</b>	
LC50 - Fish [1]	0.03 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h
EC50 - Crustacea [1]	0.26 mg/l Daphnia magna (Water flea) - 48 h
ErC50 algae	0.35 µg/l Chlorococcum sp. - 7 d
<b>ALPHA-HCH (ALPHA-BHC) (<sup>13</sup>C6, 99%) (319-84-6)</b>	
LC50 - Fish [1]	0.12 mg/l Carassius auratus (Goldfish) - 48 h
LC50 - Other aquatic organisms [1]	1.49 mg/l Other fish - 96 h
EC50 - Crustacea [1]	0.2 – 1.7 mg/l Daphnia magna (Water flea) - 48 h
LC50 - Fish [2]	0.2 mg/l Cyprinus carpio (Carp) - 48 h
ErC50 algae	> 100 mg/l No information available - 48 h
<b>4,4'-DDD (RING-<sup>13</sup>C12, 99%) (72-54-8 (Unlabeled))</b>	
LC50 - Fish [1]	0.04 - 0.05 mg/l - Lepomis macrochirus (Bluegill) - 96 h
EC50 - Crustacea [1]	0.01 mg/l Daphnia pulex (Water flea) - 48 h
<b>LINDANE UNLABELED (58-89-9)</b>	
LC50 - Fish [1]	0.2 mg/l Cyprinus carpio (Carp) - 96 h
EC50 - Crustacea [1]	0.8 – 6.5 mg/l Daphnia magna (Water flea) - 48 h
ErC50 algae	4 mg/l 72 h
NOEC chronic fish	0.056 mg/l Oncorhynchus mykiss (rainbow trout) - 3 d
<b>4,4'-DICB (PCB-15) (<sup>13</sup>C12, 99%) (208263-67-6)</b>	
EC50 - Crustacea [1]	0.45 mg/l Daphnia Magna (Water flea) - 48 h

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<b>MIREX UNLABELED (2385-85-5)</b>	
LC50 - Fish [1]	0.023 mg/l Oncorhynchus mykiss (rainbow trout) -96h
EC50 - Crustacea [1]	2.6 mg/l Daphnia magna (Water flea) -2.6mg/L-48h
<b>ALPHA-BHC UNLABELED (319-84-6)</b>	
LC50 - Fish [1]	0.12 mg/l Carassius auratus (Goldfish) - 48 h
LC50 - Other aquatic organisms [1]	1.49 mg/l Other fish - 96 h
EC50 - Crustacea [1]	0.2 – 1.7 mg/l Daphnia magna (Water flea) - 48 h
LC50 - Fish [2]	0.2 mg/l Cyprinus carpio (Carp) - 48 h
ErC50 algae	> 100 mg/l No information available - 48 h
<b>DELTA-BHC UNLABELED (319-86-8)</b>	
LC50 - Fish [1]	2.83 mg/l other fish -96h
<b>HEPTACHLOR UNLABELED (76-44-8)</b>	
LC50 - Fish [1]	0.007 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h
EC50 - Crustacea [1]	0.078 mg/l Daphnia magna (Water flea) - 48 h
<b>CIS-CHLORDANE(ALPHA) UNLABELED (5103-71-9)</b>	
LC50 - Fish [1]	0.0074 mg/l Lepomis macrochirus (Bluegill) -96h
<b>TRANS-NONACHLOR UNLABELED (39765-80-5)</b>	
EC50 - Crustacea [1]	Daphnia pulex (Water flea) - 0.022 mg/l - 48 h
<b>CIS-HEPTACHLOR EPOXIDE UNLABELED (1024-57-3)</b>	
LC50 - Fish [1]	0.02 mg/l Oncorhynchus mykiss (rainbow trout) -96h
EC50 - Crustacea [1]	0.24 mg/l Daphnia magna (Water flea) -48h
<b>TRANS-CHLORDANE (GAMMA) UNLABELED (5103-74-2)</b>	
LC50 - Fish [1]	0.05 mg/l Lepomis machrochirus - 96 h
<b>4,4'-DDD UNLABELED (72-54-8)</b>	
LC50 - Fish [1]	0.04 – 0.05 mg/l Lepomis macrochirus (Bluegill) - 96.0 h
LC50 - Other aquatic organisms [1]	0.06 – 0.09 mg/l - Oncorhynchus mykiss (rainbow trout) - 96.0 h
EC50 - Crustacea [1]	0.01 mg/l Daphnia pulex (Water flea) - 48 h
LC50 - Fish [2]	1.18 – 9 mg/l - other fish - 96.0 h
LC50 - Other aquatic organisms [2]	3.47 – 5.58 mg/l - Pimephales promelas (fathead minnow) - 96.0 h
<b>BETA-BHC UNLABELED (319-85-7)</b>	
LC50 - Fish [1]	1.6 mg/l Poecilia reticulata (guppy) -96h
<b>KEPONE (CHLORDECONE) UNLABELED (143-50-0)</b>	
LC50 - Fish [1]	0.03 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h
EC50 - Crustacea [1]	0.26 mg/l Daphnia magna (Water flea) - 48 h
ErC50 algae	0.35 µg/l Chlorococcum sp. - 7 d

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<b>ENDOSULFAN I UNLABELED (959-98-8)</b>	
LC50 - Fish [1]	0.2 µg/l Other fish - 21 d
<b>LINDANE (13C6, 99%) (58-89-9 (Unlabeled))</b>	
LC50 - Fish [1]	0.2 mg/l Cyprinus carpio (Carp) - 96 h
EC50 - Crustacea [1]	0.8 – 6.5 mg/l Daphnia magna (Water flea) - 48 h
ErC50 algae	4 mg/l 72 h
NOEC chronic fish	0.056 mg/l Oncorhynchus mykiss (rainbow trout) - 3 d
<b>ISODRIN (CHEMICAL PURITY 95%) (13C12, 99%) (465-73-6 (Unlabeled))</b>	
LC50 - Fish [1]	0.012 mg/l Lepomis macrochirus - 24 h
<b>4,4'-DDE UNLABELED (72-55-9)</b>	
LC50 - Fish [1]	0.2 – 0.3 mg/l Lepomis macrochirus (Bluegill) - 96 h
LC50 - Other aquatic organisms [1]	0.05 – 0.18 mg/l Salmo salar (Atlantic salmon) - 96 h
LC50 - Fish [2]	0.03 – 0.04 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h
<b>ENDOSULFAN II UNLABELED (33213-65-9)</b>	
LC50 - Fish [1]	0.0066 mg/l Other fish - 96 h
EC50 - Crustacea [1]	0.1 – 1 mg/l Daphnia magna (Water flea) - 48 h

### 12.2. Persistence and degradability

<b>EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.
<b>PENTACHLOROBENZENE (13C6, 99%) (608-93-5 (Unlabeled))</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.
<b>PENTACHLOROBENZENE UNLABELED (608-93-5)</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.
<b>2,4'-DDT (RING-13C12, 99%) (789-02-6 (Unlabeled))</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.
<b>2,4'-DDE (RING-13C12, 99%) (3424-82-6 (Unlabeled))</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.
<b>4,4'-DDD (RING-13C12, 99%) (72-54-8 (Unlabeled))</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.
<b>LINDANE (13C6, 99%) (58-89-9 (Unlabeled))</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.

### 12.3. Bioaccumulative potential

<b>EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE</b>	
Partition coefficient n-octanol/water (Log Pow)	5.65

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<b>EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE</b>	
Bioaccumulative potential	Indication of bioaccumulation.
<b>HEXACHLOROBENZENE (13C6, 99%) (118-74-1)</b>	
Bioconcentration factor (BCF REACH)	22000
Bioaccumulative potential	Bioaccumulation Pimephale promelas (fathead minnow) - 32 d - 0.0003 mg/l.
<b>HEXACHLOROBENZENE UNLABELED (118-74-1)</b>	
Bioconcentration factor (BCF REACH)	22000
Bioaccumulative potential	Bioaccumulative potential: Pimephales promelas (fathead minnow)- 32d.
<b>ALDRIN (13C12, 99%) (309-00-2 (Unlabeled))</b>	
Bioconcentration factor (BCF REACH)	3700
Partition coefficient n-octanol/water (Log Pow)	6.5
Bioaccumulative potential	Bioaccumulation: Leuciscus idus (Golden orfe) - 3 d.
<b>PENTACHLOROBENZENE (13C6, 99%) (608-93-5 (Unlabeled))</b>	
BCF - Fish [1]	79.8 - µg/l. Pimephales promelas (fathead minnow) - 31 d
<b>PENTACHLOROBENZENE UNLABELED (608-93-5)</b>	
Bioaccumulative potential	Pimephales promelas (fathead minnow)-31d.
<b>ALDRIN UNLABELED (309-00-2)</b>	
Partition coefficient n-octanol/water (Log Pow)	6.5
<b>TRANS-NONACHLOR (13C10, 98%) (39765-80-5 (Unlabeled))</b>	
Partition coefficient n-octanol/water (Log Pow)	6.35
<b>CIS-NONACHLOR (13C10, 98%) (5103-73-1 (Unlabeled))</b>	
Partition coefficient n-octanol/water (Log Pow)	2.794
<b>4,4'-DDE (RING-13C12, 99%) (72-55-9 (Unlabeled))</b>	
BCF - Fish [1]	3.84 ug/l - Gambusia affinis (Mosquito fish) - 33 d
Bioconcentration factor (BCF REACH)	12.037
Partition coefficient n-octanol/water (Log Pow)	6.51
<b>4,4'-DDT (RING-13C12, 99%) (50-29-3)</b>	
BCF - Fish [1]	0.001 mg/l Oncorhynchus mykiss (rainbow trout) - 20 d
Bioconcentration factor (BCF REACH)	46,670
Partition coefficient n-octanol/water (Log Pow)	6.91
<b>ENDRIN (13C12, 99%) (72-20-8 (Unlabeled))</b>	
Partition coefficient n-octanol/water (Log Pow)	5.2
<b>2,4'-DDT UNLABELED (97% CHEMICAL PURITY) (789-02-6)</b>	
Bioconcentration factor (BCF REACH)	37000 Pimephales promelas (fathead minnow) - 32 d

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<b>ENDRIN UNLABELED (72-20-8)</b>	
Bioconcentration factor (BCF REACH)	13000
Partition coefficient n-octanol/water (Log Pow)	5.2
Bioaccumulative potential	Pimephales promela (fathead minnow)-56d-0.63 mg/l.
<b>4,4'-DDT UNLABELED (50-29-3)</b>	
BCF - Fish [1]	Oncorhynchus mykiss (rainbow trout) - 20 d
Bioconcentration factor (BCF REACH)	46670
Partition coefficient n-octanol/water (Log Pow)	6.91
<b>N-NONANE UNLABELED (111-84-2)</b>	
Partition coefficient n-octanol/water (Log Pow)	5.65
Bioaccumulative potential	Indication of bioaccumulation.
<b>ISOOCTANE UNLABELED (540-84-1)</b>	
Partition coefficient n-octanol/water (Log Pow)	4.6
<b>MIREX (13C10, 98%) (2385-85-5 (Unlabeled))</b>	
BCF - Fish [1]	0.0012 mg/l Pimephales promelas (rainbow trout) - 32 d
Bioconcentration factor (BCF REACH)	18100
Partition coefficient n-octanol/water (Log Pow)	5.28
<b>BETA-BHC (13C6, 99%) (319-85-7 (Unlabeled))</b>	
BCF - Fish [1]	Cyprinus carpio (Carp) - 35 d - 0.05 mg/l
Partition coefficient n-octanol/water (Log Pow)	3.78
<b>CIS-HEPTACHLOR EPOXIDE (13C10, 99%) (1024-57-3 (Unlabeled))</b>	
Bioconcentration factor (BCF REACH)	14400
Partition coefficient n-octanol/water (Log Pow)	5.4
Bioaccumulative potential	Bioaccumulative potential: Pimephales promelas (fathead minnow)- 32d.
<b>HEPTACHLOR (13C10, 99%) (76-44-8 (Unlabeled))</b>	
BCF - Fish [1]	0.00043 mg/l Pimephales promelas (fathead minnow) - 276 d
Bioconcentration factor (BCF REACH)	23814
<b>ENDOSULFAN II (CHEMICAL PURITY &gt;95%) (13C9, 99%) (33213-65-9 (Unlabeled))</b>	
BCF - Fish [1]	0.0001 mg/l Other fish - 21 d
Bioconcentration factor (BCF REACH)	9908
<b>ENDOSULFAN I (13C9, 99%) (959-98-8 (Unlabeled))</b>	
Bioconcentration factor (BCF REACH)	10994
<b>2,4'-DDE (RING-13C12, 99%) (3424-82-6 (Unlabeled))</b>	
Partition coefficient n-octanol/water (Log Pow)	5.58

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<b>ALPHA-HCH (ALPHA-BHC) (<sup>13</sup>C<sub>6</sub>, 99%) (319-84-6)</b>	
BCF - Fish [1]	0.8 mg/l Other - 96 h
Bioconcentration factor (BCF REACH)	250
Partition coefficient n-octanol/water (Log Pow)	3.8
<b>4,4'-DDD (RING-<sup>13</sup>C<sub>12</sub>, 99%) (72-54-8 (Unlabeled))</b>	
Partition coefficient n-octanol/water (Log Pow)	6.02
Bioaccumulative potential	Indication of bioaccumulation.
<b>4,4'-DICB (PCB-15) (<sup>13</sup>C<sub>12</sub>, 99%) (208263-67-6)</b>	
BCF - Fish [1]	Cyprinus carpio (Carp) - 28 d
Bioconcentration factor (BCF REACH)	14,000
Partition coefficient n-octanol/water (Log Pow)	4.1
<b>MIREX UNLABELED (2385-85-5)</b>	
Bioconcentration factor (BCF REACH)	18100
Partition coefficient n-octanol/water (Log Pow)	5.28
Bioaccumulative potential	Bioaccumulative potential: Pimephales promelas (fathead minnow)- 32d.
<b>ALPHA-BHC UNLABELED (319-84-6)</b>	
BCF - Fish [1]	0.8 mg/l Other - 96 h
Bioconcentration factor (BCF REACH)	250
Partition coefficient n-octanol/water (Log Pow)	3.8
<b>DELTA-BHC UNLABELED (319-86-8)</b>	
Bioconcentration factor (BCF REACH)	326
Bioaccumulative potential	Bioaccumulation other fish-33d.
<b>HEPTACHLOR UNLABELED (76-44-8)</b>	
BCF - Fish [1]	0.00043 mg/l Pimephales promelas (fathead minnow) - 276 d
Bioconcentration factor (BCF REACH)	23814
<b>CIS-CHLORDANE(ALPHA) UNLABELED (5103-71-9)</b>	
Bioconcentration factor (BCF REACH)	332
Bioaccumulative potential	Lepomis macrochirus (Bluegill)-24h.
<b>TRANS-NONACHLOR UNLABELED (39765-80-5)</b>	
Partition coefficient n-octanol/water (Log Pow)	6.35
<b>CIS-NONACHLOR UNLABELED (5103-73-1)</b>	
Partition coefficient n-octanol/water (Log Pow)	2.794
<b>CIS-HEPTACHLOR EPOXIDE UNLABELED (1024-57-3)</b>	
Bioconcentration factor (BCF REACH)	14400
Partition coefficient n-octanol/water (Log Pow)	5.4

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<b>CIS-HEPTACHLOR EPOXIDE UNLABELED (1024-57-3)</b>	
Bioaccumulative potential	Bioaccumulative potential: Pimephales promelas (fathead minnow)- 32d.
<b>2,4'-DDE UNLABELED (3424-82-6)</b>	
Partition coefficient n-octanol/water (Log Pow)	5.58
<b>4,4'-DDD UNLABELED (72-54-8)</b>	
Partition coefficient n-octanol/water (Log Pow)	6.02
Bioaccumulative potential	Indication of bioaccumulation.
<b>BETA-BHC UNLABELED (319-85-7)</b>	
Bioconcentration factor (BCF REACH)	500
Partition coefficient n-octanol/water (Log Pow)	3.78
Bioaccumulative potential	Bioaccumulative potential Cyprinus carpio (Carp)-35d-0.05 mg/l.
<b>ENDOSULFAN I UNLABELED (959-98-8)</b>	
Bioconcentration factor (BCF REACH)	10994
<b>LINDANE (13C6, 99%) (58-89-9 (Unlabeled))</b>	
BCF - Fish [1]	0.0091 mg/l Bioaccumulation Pimephales promelas (fathead minnow) - 304 d
Bioconcentration factor (BCF REACH)	674
Partition coefficient n-octanol/water (Log Pow)	3.5 at 22 °C (72 °F)
<b>ISODRIN (CHEMICAL PURITY 95%) (13C12, 99%) (465-73-6 (Unlabeled))</b>	
Bioaccumulative potential	Bioaccumulation Leuciscus idus (Golden orfe); Bioconcentration factor (BCF): 3,890.
<b>4,4'-DDE UNLABELED (72-55-9)</b>	
BCF - Fish [1]	3.84 ug/l - Gambusia affinis (Mosquito fish) - 33 d
Bioconcentration factor (BCF REACH)	12.037
Partition coefficient n-octanol/water (Log Pow)	6.51
<b>ENDOSULFAN II UNLABELED (33213-65-9)</b>	
BCF - Fish [1]	0.0001 mg/l Other fish - 21 d
Bioconcentration factor (BCF REACH)	9908

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Other adverse effects : Disposal must be done according to official regulations. Environmental precautions. Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.

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Product/Packaging disposal recommendations : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Ecology - waste materials : Dispose of as unused product.

### SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

#### 14.1. UN number

DOT NA No : UN1920  
UN-No. (TDG) : UN1920  
UN-No. (IMDG) : 1920  
UN-No. (IATA) : 1920

#### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Nonanes  
Proper Shipping Name (TDG) : NONANES  
Proper Shipping Name (IMDG) : NONANES  
Proper Shipping Name (IATA) : Nonanes

#### 14.3. Transport hazard class(es)

##### DOT

Transport hazard class(es) (DOT) : 3  
Hazard labels (DOT) : 3



##### TDG

Transport hazard class(es) (TDG) : 3  
Hazard labels (TDG) : 3



##### IMDG

Transport hazard class(es) (IMDG) : 3  
Hazard labels (IMDG) : 3



##### IATA

Transport hazard class(es) (IATA) : 3  
Hazard labels (IATA) : 3



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### 14.4. Packing group

Packing group (DOT)	: III
Packing group (TDG)	: III
Packing group (IMDG)	: III
Packing group (IATA)	: III

### 14.5. Environmental hazards

Marine pollutant : Yes (IMDG only)



Other information : No supplementary information available.

### 14.6. Special precautions for user

<b>DOT</b>	
UN-No.(DOT)	: UN1920
DOT Special Provisions (49 CFR 172.102)	: B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 55 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T2 - 1.5 178.274(d)(2) Normal..... 178.275(d)(3) TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 220 L
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
<b>TDG</b>	
UN-No. (TDG)	: UN1920
Explosive Limit and Limited Quantity Index	: 5 L
Excepted quantities (TDG)	: E1

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Passenger Carrying Road Vehicle or Passenger : 60 L  
Carrying Railway Vehicle Index  
Emergency Response Guide (ERG) Number : 128

### IMDG

Limited quantities (IMDG) : 5 L  
Excepted quantities (IMDG) : E1  
Packing instructions (IMDG) : P001, LP01  
IBC packing instructions (IMDG) : IBC03  
Tank instructions (IMDG) : T2  
Tank special provisions (IMDG) : TP1  
EmS-No. (Fire) : F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS  
EmS-No. (Spillage) : S-E - SPILLAGE SCHEDULE Echo - FLAMMABLE LIQUIDS, FLOATING ON WATER  
Stowage category (IMDG) : A  
Flash point (IMDG) : '  
Properties and observations (IMDG) : Colourless liquids. Explosive limits: 0.8% to 2.9% normal-NONANE: flashpoint 31°C c.c.  
Immiscible with water. Irritating to skin, eyes and mucous membranes.  
MFAG-No : 128

### IATA

PCA Excepted quantities (IATA) : E1  
PCA Limited quantities (IATA) : Y344  
PCA limited quantity max net quantity (IATA) : 10L  
PCA packing instructions (IATA) : 355  
PCA max net quantity (IATA) : 60L  
CAO packing instructions (IATA) : 366  
CAO max net quantity (IATA) : 220L  
ERG code (IATA) : 3L

## 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/ <sup>13</sup> C, 99%) IN NONANE/ISOOCTANE	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
HEXACHLOROBENZENE (13C6, 99%)	118-74-1	Present	Active	
HEXACHLOROBENZENE UNLABELED	118-74-1	Present	Active	
ALDRIN (13C12, 99%)	309-00-2 (Unlabeled)	Not present	-	
PENTACHLOROBENZENE (13C6, 99%)	608-93-5 (Unlabeled)	Not present	-	
PENTACHLOROBENZENE UNLABELED	608-93-5	Present	Active	S;T
ALDRIN UNLABELED	309-00-2	Not present	-	

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Name	CAS-No.	Listing	Commercial status	Flags
DIELDRIN (13C12, 98-99%)	60-57-1 (Unlabeled)	Not present	-	
OXYCHLORDANE (13C10, 99%)	27304-13-8 (Unlabeled)	Not present	-	
TRANS-NONACHLOR (13C10, 98%)	39765-80-5 (Unlabeled)	Not present	-	
CIS-NONACHLOR (13C10, 98%)	5103-73-1 (Unlabeled)	Not present	-	
4,4'-DDE (RING-13C12, 99%)	72-55-9 (Unlabeled)	Not present	-	
2,4'-DDT (RING-13C12, 99%)	789-02-6 (Unlabeled)	Not present	-	
4,4'-DDT (RING-13C12, 99%)	50-29-3	Present	Active	S
ENDRIN (13C12, 99%)	72-20-8 (Unlabeled)	Not present	-	
TRANS-CHLORDANE (GAMMA) (13C10, 99%)	5103-74-2 (Unlabeled)	Not present	-	
2,4'-DDD (RING-13C12, 99%)	53-19-0 (Unlabeled)	Not present	-	
2,4'-DDT UNLABELED (97% CHEMICAL PURITY)	789-02-6	Not present	-	
DIELDRIN UNLABELED	60-57-1	Not present	-	
ENDRIN UNLABELED	72-20-8	Not present	-	
4,4'-DDT UNLABELED	50-29-3	Present	Active	S
N-NONANE UNLABELED	111-84-2	Present	Active	T
ISOOCTANE UNLABELED	540-84-1	Present	Active	
DELTA-BHC (13C6, 99%)	319-86-8 (Unlabeled)	Not present	-	
MIREX (13C10, 98%)	2385-85-5 (Unlabeled)	Not present	-	
BETA-BHC (13C6, 99%)	319-85-7 (Unlabeled)	Not present	-	
CIS-HEPTACHLOR EPOXIDE (13C10, 99%)	1024-57-3 (Unlabeled)	Not present	-	
HEPTACHLOR (13C10, 99%)	76-44-8 (Unlabeled)	Not present	-	
ENDOSULFAN II (CHEMICAL PURITY >95%) (13C9, 99%)	33213-65-9 (Unlabeled)	Not present	-	
ENDOSULFAN I (13C9, 99%)	959-98-8 (Unlabeled)	Not present	-	
KEPONE (CHLORDECONE) (13C10, 99%)	143-50-0 (Unlabeled)	Not present	-	
2,4'-DDE (RING-13C12, 99%)	3424-82-6 (Unlabeled)	Not present	-	
ALPHA-HCH (ALPHA-BHC) (13C6, 99%)	319-84-6	Present	Active	
4,4'-DDD (RING-13C12, 99%)	72-54-8 (Unlabeled)	Not present	-	
LINDANE UNLABELED	58-89-9	Present	Active	
2,3',4',5-TETRACB (PCB-70) (13C12, 99%)	208263-81-4	Not present	-	
4,4'-DICB (PCB-15) (13C12, 99%)	208263-67-6	Not present	-	
MIREX UNLABELED	2385-85-5	Not present	-	
ALPHA-BHC UNLABELED	319-84-6	Present	Active	
DELTA-BHC UNLABELED	319-86-8	Present	Active	
HEPTACHLOR UNLABELED	76-44-8	Not present	-	

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Name	CAS-No.	Listing	Commercial status	Flags
CIS-CHLORDANE(ALPHA) UNLABELED	5103-71-9	Not present	-	
TRANS-NONACHLOR UNLABELED	39765-80-5	Not present	-	
CIS-NONACHLOR UNLABELED	5103-73-1	Not present	-	
CIS-HEPTACHLOR EPOXIDE UNLABELED	1024-57-3	Not present	-	
TRANS-CHLORDANE (GAMMA) UNLABELED	5103-74-2	Not present	-	
2,4'-DDD UNLABELED	53-19-0	Not present	-	
2,4'-DDE UNLABELED	3424-82-6	Not present	-	
4,4'-DDD UNLABELED	72-54-8	Not present	-	
TRANS-HEPTACHLOR EPOXIDE UNLABELED	28044-83-9	Not present	-	
BETA-BHC UNLABELED	319-85-7	Present	Active	
OXYCHLORDANE UNLABELED	27304-13-8	Not present	-	
KEPONE (CHLORDECONE) UNLABELED	143-50-0	Not present	-	
ENDOSULFAN I UNLABELED	959-98-8	Not present	-	
LINDANE ( <sup>13</sup> C6, 99%)	58-89-9 (Unlabeled)	Not present	-	
ISODRIN (CHEMICAL PURITY 95%) ( <sup>13</sup> C12, 99%)	465-73-6 (Unlabeled)	Not present	-	
4,4'-DDE UNLABELED	72-55-9	Not present	-	
ENDOSULFAN II UNLABELED	33213-65-9	Not present	-	

### HEXACHLOROENZENE (<sup>13</sup>C6, 99%) (118-74-1)

Subject to reporting requirements of United States SARA Section 313  
Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ	10 lb
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard

### HEXACHLOROENZENE UNLABELED (118-74-1)

Subject to reporting requirements of United States SARA Section 313  
Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ	10 lb
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard

### ALDRIN (<sup>13</sup>C12, 99%) (309-00-2 (Unlabeled))

SARA Section 302 Threshold Planning Quantity (TPQ)	Subject to reporting requirements of United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

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<b>PENTACHLOROBENZENE (13C6, 99%) (608-93-5 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.

<b>PENTACHLOROBENZENE UNLABELED (608-93-5)</b>	
Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	10 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>ALDRIN UNLABELED (309-00-2)</b>	
Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	1 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	10000 lb 500lb if the substance is solid in powder form with particle size less than 100 microns, or is in solution or molten form
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

<b>DIELDRIN (13C12, 98-99%) (60-57-1 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>OXYCHLORDANE (13C10, 99%) (27304-13-8 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

<b>TRANS-NONACHLOR (13C10, 98%) (39765-80-5 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

<b>CIS-NONACHLOR (13C10, 98%) (5103-73-1 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

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<b>4,4'-DDE (RING-13C12, 99%) (72-55-9 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>2,4'-DDT (RING-13C12, 99%) (789-02-6 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>4,4'-DDT (RING-13C12, 99%) (50-29-3)</b>	
Not subject to reporting requirements of the United States SARA Section 313	
CERCLA RQ	1 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>ENDRIN (13C12, 99%) (72-20-8 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Listed on the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

<b>TRANS-CHLORDANE (GAMMA) (13C10, 99%) (5103-74-2 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>2,4'-DDD (RING-13C12, 99%) (53-19-0 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard

<b>2,4'-DDT UNLABELED (97% CHEMICAL PURITY) (789-02-6)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>DIELDRIN UNLABELED (60-57-1)</b>	
Not subject to reporting requirements of the United States SARA Section 313	
CERCLA RQ	1 lb

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<b>DIELDRIN UNLABELED (60-57-1)</b>	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>ENDRIN UNLABELED (72-20-8)</b>	
Not subject to reporting requirements of the United States SARA Section 313	
CERCLA RQ	1 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	10000 lb 500lb if the substance is solid in powder form with particle size less than 100 microns, or is in solution or molten form
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

<b>4,4'-DDT UNLABELED (50-29-3)</b>	
Not subject to reporting requirements of the United States SARA Section 313	
CERCLA RQ	1 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>N-NONANE UNLABELED (111-84-2)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard

<b>ISOOCTANE UNLABELED (540-84-1)</b>	
Not subject to reporting requirements of the United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	1000 lb
SARA Section 311/312 Hazard Classes	Fire hazard Delayed (chronic) health hazard

<b>DELTA-BHC (13C6, 99%) (319-86-8 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>MIREX (13C10, 98%) (2385-85-5 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

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<b>MIREX (13C10, 98%) (2385-85-5 (Unlabeled))</b>	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

  

<b>BETA-BHC (13C6, 99%) (319-85-7 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

  

<b>CIS-HEPTACHLOR EPOXIDE (13C10, 99%) (1024-57-3 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

  

<b>HEPTACHLOR (13C10, 99%) (76-44-8 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

  

<b>ENDOSULFAN II (CHEMICAL PURITY &gt;95%) (13C9, 99%) (33213-65-9 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

  

<b>ENDOSULFAN I (13C9, 99%) (959-98-8 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

  

<b>KEPONE (CHLORDECONE) (13C10, 99%) (143-50-0 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

  

<b>2,4'-DDE (RING-13C12, 99%) (3424-82-6 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard



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<b>ALPHA-HCH (ALPHA-BHC) (13C6, 99%) (319-84-6)</b>	
Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	10 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>4,4'-DDD (RING-13C12, 99%) (72-54-8 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>LINDANE UNLABELED (58-89-9)</b>	
Subject to reporting requirements of United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	1 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	10000 lb 1,000lb if the substance is solid in powder form with particle size less than 100 microns, or is in solution or molten form

<b>2,3',4',5-TETRACB (PCB-70) (13C12, 99%) (208263-81-4)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302

<b>4,4'-DICB (PCB-15) (13C12, 99%) (208263-67-6)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>MIREX UNLABELED (2385-85-5)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>ALPHA-BHC UNLABELED (319-84-6)</b>	
Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	10 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/13C, 99%) IN NONANE/ISOOCTANE

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<b>DELTA-BHC UNLABELED (319-86-8)</b>	
Not subject to reporting requirements of the United States SARA Section 313	
CERCLA RQ	1 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>HEPTACHLOR UNLABELED (76-44-8)</b>	
Subject to reporting requirements of United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	1 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>CIS-CHLORDANE(ALPHA) UNLABELED (5103-71-9)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>TRANS-NONACHLOR UNLABELED (39765-80-5)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

<b>CIS-NONACHLOR UNLABELED (5103-73-1)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>CIS-HEPTACHLOR EPOXIDE UNLABELED (1024-57-3)</b>	
Not subject to reporting requirements of the United States SARA Section 313	
CERCLA RQ	1 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>TRANS-CHLORDANE (GAMMA) UNLABELED (5103-74-2)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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<b>2,4'-DDD UNLABELED (53-19-0)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard

<b>2,4'-DDE UNLABELED (3424-82-6)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>4,4'-DDD UNLABELED (72-54-8)</b>	
Not subject to reporting requirements of the United States SARA Section 313	
CERCLA RQ	1 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

<b>TRANS-HEPTACHLOR EPOXIDE UNLABELED (28044-83-9)</b>	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>BETA-BHC UNLABELED (319-85-7)</b>	
Not subject to reporting requirements of the United States SARA Section 313	
CERCLA RQ	1 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>OXYCHLORDANE UNLABELED (27304-13-8)</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

<b>KEPONE (CHLORDECONE) UNLABELED (143-50-0)</b>	
Not subject to reporting requirements of the United States SARA Section 313	
CERCLA RQ	1 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>ENDOSULFAN I UNLABELED (959-98-8)</b>	
Not subject to reporting requirements of the United States SARA Section 313	
CERCLA RQ	1 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/13C, 99%) IN NONANE/ISOOCTANE

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<b>LINDANE (13C6, 99%) (58-89-9 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Listed on the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>ISODRIN (CHEMICAL PURITY 95%) (13C12, 99%) (465-73-6 (Unlabeled))</b>	
SARA Section 302 Threshold Planning Quantity (TPQ)	Listed on the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

<b>4,4'-DDE UNLABELED (72-55-9)</b>	
Not subject to reporting requirements of the United States SARA Section 313	
CERCLA RQ	1 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

<b>ENDOSULFAN II UNLABELED (33213-65-9)</b>	
Not subject to reporting requirements of the United States SARA Section 313	
CERCLA RQ	1 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

## 15.2. International regulations

### CANADA

<b>EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/13C, 99%) IN NONANE/ISOOCTANE</b>
Listed on the Canadian DSL (Domestic Substances List)

<b>HEXACHLOROBENZENE (13C6, 99%) (118-74-1)</b>
Listed on the Canadian DSL (Domestic Substances List)

<b>HEXACHLOROBENZENE UNLABELED (118-74-1)</b>
Listed on the Canadian DSL (Domestic Substances List)

<b>PENTACHLOROBENZENE UNLABELED (608-93-5)</b>
Listed on the Canadian DSL (Domestic Substances List)

<b>ALDRIN UNLABELED (309-00-2)</b>
Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

<b>4,4'-DDT (RING-13C12, 99%) (50-29-3)</b>
Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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### 2,4'-DDT UNLABELED (97% CHEMICAL PURITY) (789-02-6)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

### DIELDRIN UNLABELED (60-57-1)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

### ENDRIN UNLABELED (72-20-8)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

### 4,4'-DDT UNLABELED (50-29-3)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

### N-NONANE UNLABELED (111-84-2)

Listed on the Canadian DSL (Domestic Substances List)

### ISOOCTANE UNLABELED (540-84-1)

Listed on the Canadian DSL (Domestic Substances List)

### ALPHA-HCH (ALPHA-BHC) (13C6, 99%) (319-84-6)

Listed on the Canadian NDSL (Non-Domestic Substances List)

### LINDANE UNLABELED (58-89-9)

Listed on the Canadian DSL (Domestic Substances List)

### 2,3',4',5-TETRACB (PCB-70) (13C12, 99%) (208263-81-4)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

### 4,4'-DICB (PCB-15) (13C12, 99%) (208263-67-6)

Listed on the Canadian DSL (Domestic Substances List)

### MIREX UNLABELED (2385-85-5)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

### ALPHA-BHC UNLABELED (319-84-6)

Listed on the Canadian NDSL (Non-Domestic Substances List)

### DELTA-BHC UNLABELED (319-86-8)

Listed on the Canadian NDSL (Non-Domestic Substances List)

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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### HEPTACHLOR UNLABELED (76-44-8)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

### CIS-CHLORDANE(ALPHA) UNLABELED (5103-71-9)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

### TRANS-NONACHLOR UNLABELED (39765-80-5)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

### CIS-NONACHLOR UNLABELED (5103-73-1)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

### CIS-HEPTACHLOR EPOXIDE UNLABELED (1024-57-3)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

### TRANS-CHLORDANE (GAMMA) UNLABELED (5103-74-2)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

### 2,4'-DDD UNLABELED (53-19-0)

Listed on the Canadian DSL (Domestic Substances List)

### 2,4'-DDE UNLABELED (3424-82-6)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

### 4,4'-DDD UNLABELED (72-54-8)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

### TRANS-HEPTACHLOR EPOXIDE UNLABELED (28044-83-9)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

### BETA-BHC UNLABELED (319-85-7)

Listed on the Canadian NDSL (Non-Domestic Substances List)

### OXYCHLORDANE UNLABELED (27304-13-8)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

### KEPONE (CHLORDECONE) UNLABELED (143-50-0)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

### ENDOSULFAN I UNLABELED (959-98-8)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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### 4,4'-DDE UNLABELED (72-55-9)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

### ENDOSULFAN II UNLABELED (33213-65-9)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

### EU-Regulations

No additional information available

### National regulations

#### HEXACHLOROBENZENE (13C6, 99%) (118-74-1)

Listed on IARC (International Agency for Research on Cancer)  
Listed as carcinogen on NTP (National Toxicology Program)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

#### HEXACHLOROBENZENE UNLABELED (118-74-1)

Listed on IARC (International Agency for Research on Cancer)  
Listed as carcinogen on NTP (National Toxicology Program)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

#### PENTACHLOROBENZENE UNLABELED (608-93-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

#### ALDRIN UNLABELED (309-00-2)

Listed on IARC (International Agency for Research on Cancer)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

#### 4,4'-DDT (RING-13C12, 99%) (50-29-3)

Listed on IARC (International Agency for Research on Cancer)  
Listed as carcinogen on NTP (National Toxicology Program)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
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#### DIELDRIN UNLABELED (60-57-1)

Listed on IARC (International Agency for Research on Cancer)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

#### ENDRIN UNLABELED (72-20-8)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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### 4,4'-DDT UNLABELED (50-29-3)

Listed on IARC (International Agency for Research on Cancer)  
Listed as carcinogen on NTP (National Toxicology Program)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

### ISOOCTANE UNLABELED (540-84-1)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

### ALPHA-HCH (ALPHA-BHC) (13C6, 99%) (319-84-6)

Listed as carcinogen on NTP (National Toxicology Program)

### LINDANE UNLABELED (58-89-9)

Listed on IARC (International Agency for Research on Cancer)  
Listed as carcinogen on NTP (National Toxicology Program)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

### MIREX UNLABELED (2385-85-5)

Listed on IARC (International Agency for Research on Cancer)  
Listed as carcinogen on NTP (National Toxicology Program)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

### ALPHA-BHC UNLABELED (319-84-6)

Listed as carcinogen on NTP (National Toxicology Program)

### HEPTACHLOR UNLABELED (76-44-8)

Listed on IARC (International Agency for Research on Cancer)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

### 4,4'-DDD UNLABELED (72-54-8)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

### BETA-BHC UNLABELED (319-85-7)

Listed as carcinogen on NTP (National Toxicology Program)

### KEPONE (CHLORDECONE) UNLABELED (143-50-0)

Listed on IARC (International Agency for Research on Cancer)  
Listed as carcinogen on NTP (National Toxicology Program)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)

## 15.3. US State regulations

### EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

State or local regulations	U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List
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# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/13C, 99%) IN NONANE/ISOOCTANE

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<b>HEXACHLOROBENZENE (13C6, 99%) (118-74-1)</b>					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	Yes	Yes	Yes	0.4 µg/day	

<b>HEXACHLOROBENZENE UNLABELED (118-74-1)</b>					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	Yes	Yes	Yes	0.4 µg/day	

<b>ALDRIN (13C12, 99%) (309-00-2 (Unlabeled))</b>					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No		

<b>ALDRIN UNLABELED (309-00-2)</b>					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No	0.04 µg/day	

<b>DIELDRIN (13C12, 98-99%) (60-57-1 (Unlabeled))</b>					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No		

<b>4,4'-DDE (RING-13C12, 99%) (72-55-9 (Unlabeled))</b>					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	Yes	Yes	Yes		

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/13C, 99%) IN NONANE/ISOOCTANE

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2,4'-DDT (RING-13C12, 99%) (789-02-6 (Unlabeled))					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
No	Yes	Yes	Yes		

4,4'-DDT (RING-13C12, 99%) (50-29-3)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	Yes	Yes	Yes	2 µg/day (DDT, DDE, DDD in combination)	

ENDRIN (13C12, 99%) (72-20-8 (Unlabeled))					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
No	Yes	Yes	Yes		

2,4'-DDT UNLABELED (97% CHEMICAL PURITY) (789-02-6)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
No	Yes	Yes	Yes		

DIELDRIN UNLABELED (60-57-1)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No	0.04 µg/day	

ENDRIN UNLABELED (72-20-8)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
No	Yes	Yes	Yes		

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/13C, 99%) IN NONANE/ISOOCTANE

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4,4'-DDT UNLABELED (50-29-3)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	Yes	Yes	Yes	2 µg/day (DDT, DDE, DDD in combination)	

DELTA-BHC (13C6, 99%) (319-86-8 (Unlabeled))					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
No	Yes	Yes	Yes		

MIREX (13C10, 98%) (2385-85-5 (Unlabeled))					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No		

BETA-BHC (13C6, 99%) (319-85-7 (Unlabeled))					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No		

CIS-HEPTACHLOR EPOXIDE (13C10, 99%) (1024-57-3 (Unlabeled))					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No		

HEPTACHLOR (13C10, 99%) (76-44-8 (Unlabeled))					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	Yes	Yes	Yes		

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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<b>KEPONE (CHLORDECONE) (<sup>13</sup>C10, 99%) (143-50-0 (Unlabeled))</b>					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	Yes	Yes	Yes		

<b>ALPHA-HCH (ALPHA-BHC) (<sup>13</sup>C6, 99%) (319-84-6)</b>					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No	0.3 µg/day	

<b>4,4'-DDD (RING-<sup>13</sup>C12, 99%) (72-54-8 (Unlabeled))</b>					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No		

<b>LINDANE UNLABELED (58-89-9)</b>					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No	0.6 µg/day	

<b>2,3',4',5-TETRACB (PCB-70) (<sup>13</sup>C12, 99%) (208263-81-4)</b>					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	Yes	Yes	No		

<b>4,4'-DICB (PCB-15) (<sup>13</sup>C12, 99%) (208263-67-6)</b>					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	Yes	Yes	Yes		

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/13C, 99%) IN NONANE/ISOOCTANE

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<b>MIREX UNLABELED (2385-85-5)</b>					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No	0.04 µg/day	

<b>ALPHA-BHC UNLABELED (319-84-6)</b>					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No	0.3 µg/day	

<b>HEPTACHLOR UNLABELED (76-44-8)</b>					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	Yes	Yes	Yes	0.2 µg/day	

<b>CIS-HEPTACHLOR EPOXIDE UNLABELED (1024-57-3)</b>					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No	0.08 µg/day	

<b>TRANS-CHLORDANE (GAMMA) UNLABELED (5103-74-2)</b>					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No		

<b>4,4'-DDD UNLABELED (72-54-8)</b>					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No	2 µg/day (DDT, DDE, DDD in combination)	

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BETA-BHC UNLABELED (319-85-7)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No	0.5 µg/day	

KEPONE (CHLORDECONE) UNLABELED (143-50-0)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	Yes	Yes	Yes	0.04 µg/day	

LINDANE (13C6, 99%) (58-89-9 (Unlabeled))					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
No	Yes	Yes	Yes		

4,4'-DDE UNLABELED (72-55-9)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	Yes	Yes	Yes	2 µg/day (DDT, DDE, DDD in combination)	

Component	State or local regulations
HEXACHLOROBENZENE (13C6, 99%)(118-74-1)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
HEXACHLOROBENZENE UNLABELED(118-74-1 )	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
PENTACHLOROBENZENE UNLABELED(608-93-5 )	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
ALDRIN UNLABELED(309-00-2)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
4,4'-DDT (RING-13C12, 99%)(50-29-3)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
DIELDRIN UNLABELED(60-57-1)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
ENDRIN UNLABELED(72-20-8)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

# EXPANDED POPS PESTICIDES CALIBRATION SOLUTIONS CS1-CS6 (UNLABELED/<sup>13</sup>C, 99%) IN NONANE/ISOOCTANE

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Component	State or local regulations
4,4'-DDT UNLABELED(50-29-3 )	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
N-NONANE UNLABELED(111-84-2)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Massachusetts - Right to Know List; U.S. - Pennsylvania - RTK (Right to Know) List
ISOOCTANE UNLABELED(540-84-1)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
ALPHA-HCH (ALPHA-BHC) (13C6, 99%)(319-84-6)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
LINDANE UNLABELED(58-89-9)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
4,4'-DICB (PCB-15) (13C12, 99%)(208263-67-6)	U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - New Jersey - Right to Know Hazardous Substance List
MIREX UNLABELED(2385-85-5)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
ALPHA-BHC UNLABELED(319-84-6 )	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
DELTA-BHC UNLABELED(319-86-8)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
HEPTACHLOR UNLABELED(76-44-8)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
CIS-HEPTACHLOR EPOXIDE UNLABELED(1024-57-3 )	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
4,4'-DDD UNLABELED(72-54-8)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
BETA-BHC UNLABELED(319-85-7)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
KEPONE (CHLORDECONE) UNLABELED(143-50-0)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
ENDOSULFAN I UNLABELED(959-98-8)	U.S. - Massachusetts - Right To Know List; U.S. - Pennsylvania - RTK (Right to Know) List
4,4'-DDE UNLABELED(72-55-9)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
ENDOSULFAN II UNLABELED(33213-65-9)	U.S. - Massachusetts - Right To Know List; U.S. - Pennsylvania - RTK (Right to Know) List

## SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 09/12/2023

Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

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Full text of H-phrases	
H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H228	Flammable solid
H300	Fatal if swallowed
H301	Toxic if swallowed
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H310	Fatal in contact with skin
H311	Toxic in contact with skin
H312	Harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H330	Fatal if inhaled
H332	Harmful if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H350	May cause cancer
H351	Suspected of causing cancer
H361	Suspected of damaging fertility or the unborn child
H362	May cause harm to breast-fed children
H370	Causes damage to organs
H371	May cause damage to organs
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.