



# COD LIVER OIL REFERENCE MATERIAL

## Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 21/01/2016

Revision date:

:

Version: 1.0

**EDF-5463**

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

#### 1.1. Product identifier

Product form : Mixtures  
Product name. : COD LIVER OIL REFERENCE MATERIAL  
Product code : EDF-5463

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

##### 1.2.1. Relevant identified uses

No additional information available

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.  
50 Frontage Road  
Andover, MA 01810  
USA

USA: 1-800-322-1174 Int: 1-978-749-8000  
[cilsales@isotope.com](mailto:cilsales@isotope.com) [www.isotope.com](http://www.isotope.com)

#### Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)  
International: 1-703-741-5970 (24 hours)

### SECTION 2: Hazards identification

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

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

Not classified

##### Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified

##### Classification (GHS-US)

Not classified

##### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

##### Labeling according to Regulation (EC) No. 1272/2008 [CLP]

No labeling applicable

##### GHS-US labeling

No labeling applicable

#### 2.3. Other hazards

No additional information available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

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### 3.2. Mixtures

Name	Product identifier	%	Classification according to Directive 67/548/EEC
COD LIVER OIL	(CAS No) 8001-69-2 (Unlabeled) (EC no) 232-289-6 (Unlabeled) (EC index no)	99.999997682	Not classified
2,2',4,4',5,5'-HEXACB UNLABELED	(CAS No) 35065-27-1	0.000000389	R33
2,2',3,4,4',5'-HEXACB UNLABELED	(CAS No) 35065-28-2	0.000000038	N; R50/53 R33
2,2',3,4,4',5,5'-HEPTACB UNLABELED	(CAS No) 35065-29-3	0.000000216	R33
2,3',4,4',5-PENTACB UNLABELED	(EC no) 215-648-1 (EC index no) 602-039-00-4	0.000000159	Xn; R22
2,2',4,4'-TETRABDE (BDE-47) UNLABELED	(CAS No) 5436-43-1	0.000000149	Carc.Cat.1; R45 Carc.Cat.1; R49 Xn; R22 Xi; R41 Xi; R37 Xi; R38 N; R51/53
2,2',3,3',4,4',5-HEPTACB UNLABELED	(CAS No) 35065-30-6	0.0000000917	R33
2,2',3,4',5,5',6-HEPTACB UNLABELED	(CAS No) 52663-68-0	0.0000000839	R33
2,2',3,3',4,4'-HEXACB UNLABELED	(CAS No) 38380-07-3	0.0000000767	N; R51/53 Xn; R48/20/21/22
2,2',3,4',5,6-HEXACB UNLABELED	(CAS No) 38380-04-0	0.0000000762	R33
2,3,3',4,4'-PENTACB UNLABELED	(CAS No) 32598-14-4 (EC index no) 602-039-00-4	0.0000000732	Xn; R22 R33 N; R50/53
2,2',4,5,5'-PENTACB UNLABELED	(CAS No) 37680-73-2	0.0000000661	R33
2,3,3',4',6-PENTACB UNLABELED	(CAS No) 38380-03-9	0.0000000567	R33
2,2',4,4',5-PENTACB UNLABELED	(CAS No) 38380-01-7	0.0000000474	R33
2,3,3',4,4',5-HEXACB UNLABELED	(CAS No) 38380-08-4 (EC index no) 602-039-00-4	0.0000000456	R33
2,2',4,4',6-PENTABDE (BDE-100) UNLABELED	(CAS No) 189084-64-8	0.0000000359	Carc.Cat.1; R45 Carc.Cat.1; R49 Xn; R22 Xi; R41 Xi; R37 Xi; R38 N; R51/53
2,2',3,4,4',5,6-HEPTABDE (BDE-183) UNLABELED	(CAS No) 207122-16-5	0.0000000341	Carc.Cat.1; R45 Carc.Cat.1; R49 Xn; R22 Xi; R41 Xi; R37 Xi; R38 N; R51/53
2,2',3,3',4,4',5,5'-OCTACB UNLABELED		0.0000000296	Xn; R48/20 N; R50/53
2,3,3',4,4',6-HEXACB UNLABELED	(CAS No) 74472-42-7	0.0000000272	R33
2,2',3,4,5,5'-HEXACB UNLABELED		0.0000000253	N; R50/53 R33 R48
2,2',4,4',5,6'-HEXABDE (BDE-154) UNLABELED	(CAS No) 207122-15-4	0.0000000238	Carc.Cat.1; R45 Carc.Cat.1; R49 Xn; R22 Xi; R41 Xi; R37 Xi; R38 N; R51/53
2,2',3,5,5',6-HEXACB UNLABELED	(CAS No) 52663-63-5	0.0000000235	R33

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2,3',4,4',5,5'-HEXACB UNLABELED	(CAS No) 52663-72-6 (EC index no) 602-039-00-4	0.0000000234	R33
2,2',3,3',4',5,6-HEPTACB UNLABELED	(CAS No) 52663-70-4	0.0000000217	R33
2,2',4,4',5-PENTABDE (BDE-99) UNLABELED	(CAS No) 60348-60-9	0.0000000187	Carc.Cat.1; R45 Carc.Cat.1; R49 Xn; R22 Xi; R41 Xi; R37 Xi; R38 N; R51/53
2,3',4,4'-TETRACB UNLABELED		0.0000000171	Xn; R48/20/21/22 N; R50/53 R33
2,2',5,5'-TETRACB UNLABELED	(CAS No) 35693-99-3	0.0000000153	Xn; R22 N; R50/53
2,2',3,3',5,5',6-HEPTACB UNLABELED		0.0000000151	N; R50/53 R33 R48
2,2',3,4,4',5-HEXACB UNLABELED	(CAS No) 35694-06-5	0.0000000134	R33 N; R50/53
2,3,3',4,4',5'-HEXACB UNLABELED	(CAS No) 69782-90-7 (EC index no) 602-039-00-4	0.0000000124	R33
2,4,4',5-TETRACB UNLABELED	(CAS No) 32690-93-0	0.0000000102	R33
DECACHLOROBIPHENYL UNLABELED	(CAS No) 2051-24-3	0.0000000096	N; R50/53
2,2',3,3',4,4',5,5',6-NONACB UNLABELED		0.0000000095	R33
2,2',3,5'-TETRACB UNLABELED	(CAS No) 41464-39-5	0.0000000061	R33
2,3,3',4,4',5,5'-HEPTACB UNLABELED	(CAS No) 39635-31-9 (EC index no) 602-039-00-4	0.0000000053	R33
2,3',4,4'-TETRABDE (BDE-66) UNLABELED	(CAS No) 189084-61-5	0.0000000053	Carc.Cat.1; R45 Carc.Cat.1; R49 Xn; R22 Xi; R41 Xi; R37 Xi; R38 N; R51/53
2,4,4'-TRICB UNLABELED	(CAS No) 7012-37-5 (EC no) 230-293-2	0.0000000005	Xi; R36/37/38 N; R50/53
2,4,4'-TRIBDE (BDE-28) UNLABELED	(CAS No) 41318-75-6	0.0000000004	Carc.Cat.1; R45 Carc.Cat.1; R49 Xn; R22 Xi; R41 Xi; R37 Xi; R38 N; R51/53
2,3,4,4',5-PENTACB UNLABELED	(CAS No) 74472-37-0 (EC index no) 602-039-00-4	0.0000000035	Xn; R22 N; R50/53
2,2',4,4',5,5'-HEXABDE (BDE-153) UNLABELED	(CAS No) 68631-49-2	0.0000000034	Carc.Cat.1; R45 Carc.Cat.1; R49 Xn; R22 Xi; R41 Xi; R37 Xi; R38 N; R51/53
2,2',3,3',4,5,5',6,6'-NONACB UNLABELED	(CAS No) 52663-77-1	0.0000000028	R33
2',3,4,4',5-PENTACB UNLABELED	(CAS No) 65510-44-3 (EC index no) 602-039-00-4	0.0000000023	R33
3,3',4,4',5-PENTACB UNLABELED	(CAS No) 57465-28-8 (EC index no) 602-039-00-4	0.0000000015	R33
3,3',4,4'-TETRACB UNLABELED	(CAS No) 32598-13-3 (EC index no) 602-039-00-4	0.0000000001	R33 N; R50/53

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Name	Product identifier	%	Classification according to Directive 67/548/EEC
2,2',4-TRIBDE (BDE-17) UNLABELED	(CAS No) 147217-75-2	0.000000007	Carc.Cat.1; R45 Carc.Cat.1; R49 Xn; R22 Xi; R41 Xi; R37 Xi; R38 N; R51/53
3,3',4,4',5,5'-HEXACB UNLABELED	(CAS No) 32774-16-6 (EC index no) 602-039-00-4	0.000000004	N; R50/53 Xn; R22
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
COD LIVER OIL	(CAS No) 8001-69-2 (Unlabeled) (EC no) 232-289-6 (Unlabeled) (EC index no)	99.99997682	Not classified
2,2',4,4',5,5'-HEXACB UNLABELED	(CAS No) 35065-27-1	0.000000389	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',3,4,4',5'-HEXACB UNLABELED	(CAS No) 35065-28-2	0.000000038	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',3,4,4',5,5'-HEPTACB UNLABELED	(CAS No) 35065-29-3	0.000000216	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,3',4,4',5-PENTACB UNLABELED	(EC no) 215-648-1 (EC index no) 602-039-00-4	0.000000159	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',4,4'-TETRABDE (BDE-47) UNLABELED	(CAS No) 5436-43-1	0.000000149	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 1A, H350 STOT SE 3, H336 Aquatic Chronic 2, H411
2,2',3,3',4,4',5-HEPTACB UNLABELED	(CAS No) 35065-30-6	0.0000000917	STOT RE 2, H373 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410
2,2',3,4',5,5',6-HEPTACB UNLABELED	(CAS No) 52663-68-0	0.0000000839	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',3,3',4,4'-HEXACB UNLABELED	(CAS No) 38380-07-3	0.0000000767	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',3,4',5,6-HEXACB UNLABELED	(CAS No) 38380-04-0	0.0000000762	STOT RE 2, H373 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410
2,3,3',4,4'-PENTACB UNLABELED	(CAS No) 32598-14-4 (EC index no) 602-039-00-4	0.0000000732	Eye Dam. 1, H318 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',4,5,5'-PENTACB UNLABELED	(CAS No) 37680-73-2	0.0000000661	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,3,3',4',6-PENTACB UNLABELED	(CAS No) 38380-03-9	0.0000000567	STOT RE 2, H373 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410
2,2',4,4',5-PENTACB UNLABELED	(CAS No) 38380-01-7	0.0000000474	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,3,3',4,4',5-HEXACB UNLABELED	(CAS No) 38380-08-4 (EC index no) 602-039-00-4	0.0000000456	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',4,4',6-PENTABDE (BDE-100) UNLABELED	(CAS No) 189084-64-8	0.0000000359	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 2, H411 Carc. 1A, H350
2,2',3,4,4',5,6-HEPTABDE (BDE-183) UNLABELED	(CAS No) 207122-16-5	0.0000000341	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 1A, H350 STOT SE 3, H336 Aquatic Chronic 2, H411
2,2',3,3',4,4',5,5'-OCTACB UNLABELED		0.0000000296	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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2,3,3',4,4',6-HEXACB UNLABELED	(CAS No) 74472-42-7	0.0000000272	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',3,4,5,5'-HEXACB UNLABELED		0.0000000253	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',4,4',5,6'-HEXABDE (BDE-154) UNLABELED	(CAS No) 207122-15-4	0.0000000238	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 1A, H350 STOT SE 3, H336 Aquatic Chronic 2, H411
2,2',3,5,5',6-HEXACB UNLABELED	(CAS No) 52663-63-5	0.0000000235	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,3',4,4',5,5'-HEXACB UNLABELED	(CAS No) 52663-72-6 (EC index no) 602-039-00-4	0.0000000234	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',3,3',4',5,6-HEPTACB UNLABELED	(CAS No) 52663-70-4	0.0000000217	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',4,4',5-PENTABDE (BDE-99) UNLABELED	(CAS No) 60348-60-9	0.0000000187	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 1A, H350 STOT SE 3, H336 Aquatic Chronic 2, H411
2,3',4,4'-TETRACB UNLABELED		0.0000000171	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',5,5'-TETRACB UNLABELED	(CAS No) 35693-99-3	0.0000000153	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',3,3',5,5',6-HEPTACB UNLABELED		0.0000000151	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',3,4,4',5-HEXACB UNLABELED	(CAS No) 35694-06-5	0.0000000134	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,3,3',4,4',5'-HEXACB UNLABELED	(CAS No) 69782-90-7 (EC index no) 602-039-00-4	0.0000000124	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,4,4',5-TETRACB UNLABELED	(CAS No) 32690-93-0	0.0000000102	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
DECACHLOROBIPHENYL UNLABELED	(CAS No) 2051-24-3	0.0000000096	Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',3,3',4,4',5,5',6-NONACB UNLABELED		0.0000000095	Carc. 1B, H350 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',3,5'-TETRACB UNLABELED	(CAS No) 41464-39-5	0.0000000061	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,3,3',4,4',5,5'-HEPTACB UNLABELED	(CAS No) 39635-31-9 (EC index no) 602-039-00-4	0.0000000053	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,3',4,4'-TETRABDE (BDE-66) UNLABELED	(CAS No) 189084-61-5	0.0000000053	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 1A, H350 STOT SE 3, H336 Aquatic Chronic 2, H411
2,4,4'-TRICB UNLABELED	(CAS No) 7012-37-5 (EC no) 230-293-2	0.0000000005	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,4,4'-TRIBDE (BDE-28) UNLABELED	(CAS No) 41318-75-6	0.0000000004	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 1A, H350 STOT SE 3, H336 Aquatic Chronic 2, H411
2,3,4,4',5-PENTACB UNLABELED	(CAS No) 74472-37-0 (EC index no) 602-039-00-4	0.0000000035	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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2,2',4,4',5,5'-HEXABDE (BDE-153) UNLABELED	(CAS No) 68631-49-2	0.0000000034	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 1A, H350 STOT SE 3, H336 Aquatic Chronic 2, H411
2,2',3,3',4,5,5',6,6'-NONACB UNLABELED	(CAS No) 52663-77-1	0.0000000028	Carc. 1B, H350 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2',3,4,4',5-PENTACB UNLABELED	(CAS No) 65510-44-3 (EC index no) 602-039-00-4	0.0000000023	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
3,3',4,4',5-PENTACB UNLABELED	(CAS No) 57465-28-8 (EC index no) 602-039-00-4	0.0000000015	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
3,3',4,4'-TETRACB UNLABELED	(CAS No) 32598-13-3 (EC index no) 602-039-00-4	0.000000001	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,2',4-TRIBDE (BDE-17) UNLABELED	(CAS No) 147217-75-2	0.0000000007	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 1A, H350 STOT SE 3, H336 Aquatic Chronic 2, H411
3,3',4,4',5,5'-HEXACB UNLABELED	(CAS No) 32774-16-6 (EC index no) 602-039-00-4	0.0000000004	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of R-, H- and EUH-phrases: see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
- First-aid measures after inhalation : If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.
- First-aid measures after skin contact : Wash with soap and plenty of water. Consult a physician.
- First-aid measures after eye contact : Flush eyes with water as a precaution.
- First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2. Most important symptoms and effects, both acute and delayed

No additional information available

#### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

#### 5.2. Special hazards arising from the substance or mixture

No additional information available

#### 5.3. Advice for firefighters

- Firefighting instructions : The product itself does not burn.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

Emergency procedures : Avoid dust formation. Avoid breathing vapors, mist or gas.

##### 6.1.2. For emergency responders

No additional information available

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters.

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

For containment : Sweep up and shovel. Keep in suitable, closed containers for disposal.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Provide good ventilation in process area to prevent formation of vapor.  
Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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

Storage conditions : Store at room temperature away from light and moisture.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 2,2',5,5'-TETRACB UNLABELED (35693-99-3)

USA OSHA	OSHA PEL (TWA) (mg/m3)	0.5000000000 mg/m <sup>3</sup>
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### 8.2. Exposure controls

Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Hand protection : Wear suitable protective clothing and gloves.  
Eye protection : Wear safety glasses with side shields (or goggles) and a face shield.  
Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.  
Respiratory protection : When appropriate, use NIOSH/CEN approved respirator.

## SECTION 9: Physical and chemical properties

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

*The properties listed below are for the solvent, the main component of this mixture.*

Physical state : Liquid  
Appearance : Liquid, oily.  
Color : yellow.  
Odor : Slight fishy odor.  
Odor threshold : No data available  
pH : No data available  
Relative evaporation rate (butyl acetate=1) : No data available  
Melting point : No data available  
Freezing point : No data available  
Boiling point : No data available  
Flash point : 260 °C  
Self ignition temperature : No data available  
Decomposition temperature : No data available  
Flammability (solid, gas) : No data available  
Vapor pressure : No data available  
Relative vapor density at 20 °C : No data available  
Relative density : No data available  
Solubility : No data available  
Log Pow : No data available  
Log Kow : No data available  
Viscosity, kinematic : No data available  
Viscosity, dynamic : No data available

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Explosive properties : No data available  
Oxidizing properties : No data available  
Explosive limits : No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

See storage and expiration date on CoA.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

#### COD LIVER OIL (8001-69-2 (Unlabeled))

LD50 oral	> 2000 mg/kg
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Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

#### 3,3',4,4'-TETRACB UNLABELED (32598-13-3)

LC50 fish 1	> 0.002 mg/l Pimephales promelas (fathead minnow) - 96 h
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EC50 Daphnia 1	> 0.002 mg/l Daphnia magna (Water flea) - 48 h
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NOEC (chronic)	0.1 mg/l Oncorhynchus mykiss (rainbow trout) - 7 d
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#### 2,2',5,5'-TETRACB UNLABELED (35693-99-3)

LC50 fish 1	Pimephales promelas (fathead minnow) - 96 h
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EC50 Daphnia 1	Daphnia magna (Water flea) - 48 h
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NOEC (chronic)	0.1 mg/l Oncorhynchus mykiss (rainbow trout) - 7 d
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#### 2,2',4,4',5,5'-HEXACB UNLABELED (35065-27-1)

LC50 fish 1	Pimephales promelas (fathead minnow) - 96 h
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EC50 Daphnia 1	Daphnia magna (Water flea) - 48 h
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#### 2,2',3,3',4,4',5-HEPTACB UNLABELED (35065-30-6)

LC50 fish 1	0.034 mg/l Pimephales promelas (fathead minnow) - 96 h
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#### 2,4,4'-TRICB UNLABELED (7012-37-5)

LC50 fish 1	> 0.16 mg/l Pimephales promelas (fathead minnow) - 96h
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# COD LIVER OIL REFERENCE MATERIAL EDF-5463

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### 2,4,4'-TRICB UNLABELED (7012-37-5)

EC50 Daphnia 1	> 0.16 mg/l Daphnia magna (Water flea) - 48h
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#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

### 3,3',4,4'-TETRACB UNLABELED (32598-13-3)

Bioconcentration factor (BCF REACH)	81.5
Bioaccumulative potential	Bioaccumulation: Oryzias latipes - 20 d Bioconcentration factor (BCF): 81.5.

### 2,3',4,4',5-PENTACB UNLABELED

Log Pow	7.12
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#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

No additional information available

#### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

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

## SECTION 14: Transport information

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

### 14.1. UN number

Not applicable

### 14.2. UN proper shipping name

Not applicable

### 14.3. Additional information

Other information : No supplementary information available.

Special transport precautions : Not dangerous goods.

#### Overland transport

No additional information available

#### Transport by sea

No additional information available

#### Air transport

No additional information available

### 14.4. Environmental hazards

Other information : No supplementary information available.

### 14.5. Special precautions for user

Special transport precautions : Not dangerous goods.

### 14.6. 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

No additional information available

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### 15.2. International regulations

#### CANADA

##### COD LIVER OIL REFERENCE MATERIAL

Listed on the Canadian DSL (Domestic Substances List) inventory.

#### 15.2.1. National regulations

No additional information available

### 15.3. US State regulations

##### COD LIVER OIL REFERENCE MATERIAL()

State or local regulations	U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.
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## SECTION 16: Other information

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.

Full text of R-, H- and EUH-phrases::

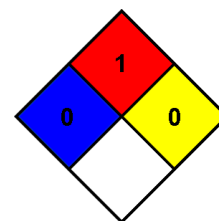
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Carc. 1A	Carcinogenicity Category 1A
Carc. 1B	Carcinogenicity Category 1B
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Skin Irrit. 2	skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H336	May cause drowsiness or dizziness
H350	May cause cancer
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
H411	Toxic to aquatic life with long lasting effects
R22	Harmful if swallowed
R33	Danger of cumulative effects
R36/37/38	Irritating to eyes, respiratory system and skin
R37	Irritating to respiratory system
R38	Irritating to skin
R41	Risk of serious damage to eyes
R45	May cause cancer
R48	Danger of serious damage to health by prolonged exposure
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation
R48/20/21/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed
R49	May cause cancer by inhalation
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
N	Dangerous for the environment
Xi	Irritant
Xn	Harmful

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- NFPA health hazard : 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.
- NFPA fire hazard : 1 - Must be preheated before ignition can occur.
- NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



### HMIS III Rating

- Health : 0 Minimal Hazard - No significant risk to health
- Flammability : 1 Slight Hazard
- Physical : 0 Minimal Hazard

### CIL Mixture SDS

*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*