



DIOXIN & FURAN FOOD/FEED/QQQ CAL. STANDARD (CS1) (UNLABELED/13C12, 99%) IN NONANE

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: 05/12/2016

Revision date:

:

Version: 1.0

EDF-5554-CS1

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

1.1. Product identifier

Product form : Mixture
Product name : DIOXIN & FURAN FOOD/FEED/QQQ CAL. STANDARD (CS1) (UNLABELED/13C12, 99%) IN NONANE
Product code : EDF-5554-CS1

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

1.2.1. Relevant identified uses

Main use category : Professional use
Industrial/Professional use spec : For professional use only

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 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]

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

Full text of H-statements: see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F; R11
Xn; R65
Xi; R38
R67

Full text of R-phrases: see section 16

GHS-US classification

Flam. Liq. 3 H226
Acute Tox. 4 (Inhalation:vapour) H332
Skin Irrit. 2 H315
Eye Irrit. 2A H319
STOT SE 3 H336
Asp. Tox. 1 H304

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Adverse physicochemical, human health and environmental effects

Central Nervous System.

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS02

GHS08

GHS07

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H226 - Flammable liquid and vapour
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H336 - May cause drowsiness or dizziness

Precautionary statements (CLP) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment
P261 - Avoid breathing fume, mist, spray, vapours
P264 - Wash Both hands thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection, face protection, protective clothing, protective gloves

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS02

GHS08

GHS07

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H226 - Flammable liquid and vapour
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H336 - May cause drowsiness or dizziness

Precautionary statements (GHS-US) :

P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking
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, vapours
P264 - Wash Both hands thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection, face protection, protective clothing, protective gloves
P301+P310 - IF SWALLOWED: immediately call a POISON CENTER or doctor/physician
P302+P352 - IF ON SKIN: Wash with plenty of soap and water
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - IF INHALED: remove victim to fresh air and keep at rest in a position 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/physician 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

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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 for extinction
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

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification according to Directive 67/548/EEC
N-NONANE UNLABELED	(CAS No) 111-84-2 (EC no) 203-913-4	99.985912804	R10 Xn; R20 Xn; R65 R67 Xi; R38
TOLUENE UNLABELED	(CAS No) 108-88-3 (EC no) 203-625-9 (EC index no) 601-021-00-3 (REACH-no) 01-2119471310-51	0.0140298501	F; R11 Xi; R38 Xn; R65 Repr.Cat.3; R62 Repr.Cat.3; R63 R67 N; R51/53 Xn; R48/20
OCTACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 39001-02-0 (Unlabeled)	0.0000069637	Xn; R22 Xi; R36 R53
OCTACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 3268-87-9 (Unlabeled)	0.0000069637	Xn; R22 Xn; R65 R53
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 39227-28-6 (Unlabeled)	0.0000027855	Xn; R22 Xn; R65 R53
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 19408-74-3 (Unlabeled)	0.0000027855	Xn; R22 Xn; R65 R53
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 70648-26-9 (Unlabeled)	0.0000027855	Xn; R22 Xi; R36 R53
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 72918-21-9 (Unlabeled)	0.0000027855	Xn; R22 Xi; R36 R53
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 60851-34-5 (Unlabeled)	0.0000027855	Xn; R22 Xi; R36 R53
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 67562-39-4 (Unlabeled)	0.0000027855	Xn; R22 Xi; R36 R53
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 57117-44-9 (Unlabeled)	0.0000027855	Xn; R22 Xi; R36 R53
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 57652-85-7 (Unlabeled)	0.0000027855	Xn; R22 Xn; R65 R53
1,2,3,4,6,8,9-HEPTACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 69698-58-4 (Unlabeled)	0.0000027855	Xn; R22 Xi; R36 R53

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Name	Product identifier	%	Classification according to Directive 67/548/EEC
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 55673-89-7 (Unlabeled)	0.0000027855	Xn; R22 Xi; R36 R53
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 35822-46-9 (Unlabeled)	0.0000027855	Xn; R22 Xn; R65 R53
1,2,3,4,6,7-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) NA	0.0000027855	Xn; R22 Xn; R65 R53
1,2,3,7,8-PENTACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 57117-46-6 (Unlabeled)	0.0000013927	Xn; R22 Xi; R36 R53
2,3,4,7,8-PENTACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 57117-31-4 (Unlabeled)	0.0000013927	Xn; R22 Xi; R36 R53
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 40321-76-4 (Unlabeled)	0.0000013927	Xn; R22 Xn; R65 R53
2,3,7,8-TETRACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 51207-31-9 (Unlabeled)	0.0000013927	Xn; R22 Xi; R36 R53
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 50585-41-6 (Unlabeled)	0.0000013927	Xn; R22 Xn; R65 R53
1,2,3,4-TETRACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 116865-58-8	0.0000013927	Muta.Cat.3; R68 T+; R27 Xn; R65 R53
1,2,3,4-TETRACHLORODIBENZO-P-DIOXIN (13C6, 99%)	(CAS No) 30746-58-8 (Unlabeled)	0.0000013927	T+; R26/27/28 Carc.Cat.1; R45
OCTACHLORODIBENZOFURAN UNLABELED	(CAS No) 39001-02-0	0.0000000348	Xn; R22 Xi; R36 R53
OCTACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 3268-87-9	0.0000000348	T+; R28 Xi; R36 Carc.Cat.3; R40
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 39227-28-6	0.0000000139	Xn; R22 Xn; R65 R53
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 57652-85-7	0.0000000139	Xn; R22 Xn; R65 R53
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN UNLABELED	(CAS No) 70648-26-9	0.0000000139	Xn; R22 Xi; R36 R53
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN UNLABELED	(CAS No) 67562-39-4	0.0000000139	Xn; R22 Xi; R36 R53
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN UNLABELED	(CAS No) 57117-44-9	0.0000000139	Xn; R22 Xi; R36 R53
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN UNLABELED	(CAS No) 72918-21-9	0.0000000139	Xn; R22 Xi; R36 R53
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN UNLABELED	(CAS No) 60851-34-5	0.0000000139	Xn; R22 Xi; R36 R53

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1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 19408-74-3	0.0000000139	Xn; R20/21/22 Carc.Cat.1; R45
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 35822-46-9	0.0000000139	Xn; R22 Xn; R65 R53
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN UNLABELED	(CAS No) 55673-89-7	0.0000000139	Xn; R22 Xi; R36 R53
2,3,7,8-TETRACHLORODIBENZOFURAN UNLABELED	(CAS No) 51207-31-9	0.000000007	Xn; R22 Xi; R36 R53
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 40321-76-4	0.000000007	Xn; R22 Xn; R65 R53
1,2,3,7,8-PENTACHLORODIBENZOFURAN UNLABELED	(CAS No) 57117-41-6	0.000000007	Xn; R22 Xi; R36 R53
2,3,4,7,8-PENTACHLORODIBENZOFURAN UNLABELED	(CAS No) 57117-31-4	0.000000007	Xn; R22 Xi; R36 R53
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 1746-01-6	0.000000007	Xn; R22 Xn; R65 R53

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
N-NONANE UNLABELED	(CAS No) 111-84-2 (EC no) 203-913-4	99.985912804	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation:vapour), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 Asp. Tox. 1, H304
TOLUENE UNLABELED	(CAS No) 108-88-3 (EC no) 203-625-9 (EC index no) 601-021-00-3 (REACH-no) 01-2119471310-51	0.0140298501	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304
OCTACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 39001-02-0 (Unlabeled)	0.0000069637	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
OCTACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 3268-87-9 (Unlabeled)	0.0000069637	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 39227-28-6 (Unlabeled)	0.0000027855	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 19408-74-3 (Unlabeled)	0.0000027855	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 70648-26-9 (Unlabeled)	0.0000027855	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 72918-21-9 (Unlabeled)	0.0000027855	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 60851-34-5 (Unlabeled)	0.0000027855	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 67562-39-4 (Unlabeled)	0.0000027855	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 57117-44-9 (Unlabeled)	0.0000027855	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413

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1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 57652-85-7 (Unlabeled)	0.0000027855	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,4,6,8,9-HEPTACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 69698-58-4 (Unlabeled)	0.0000027855	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 55673-89-7 (Unlabeled)	0.0000027855	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 35822-46-9 (Unlabeled)	0.0000027855	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,4,6,7-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) NA	0.0000027855	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,7,8-PENTACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 57117-46-6 (Unlabeled)	0.0000013927	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
2,3,4,7,8-PENTACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 57117-31-4 (Unlabeled)	0.0000013927	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 40321-76-4 (Unlabeled)	0.0000013927	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
2,3,7,8-TETRACHLORODIBENZOFURAN (13C12, 99%)	(CAS No) 51207-31-9 (Unlabeled)	0.0000013927	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 50585-41-6 (Unlabeled)	0.0000013927	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,4-TETRACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 116865-58-8	0.0000013927	Acute Tox. 1 (Dermal), H310 Muta. 2, H341 STOT SE 2, H371 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,4-TETRACHLORODIBENZO-P-DIOXIN (13C6, 99%)	(CAS No) 30746-58-8 (Unlabeled)	0.0000013927	Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation:dust,mist), H330 Carc. 1A, H350
OCTACHLORODIBENZOFURAN UNLABELED	(CAS No) 39001-02-0	0.0000000348	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
OCTACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 3268-87-9	0.0000000348	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 39227-28-6	0.0000000139	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 57652-85-7	0.0000000139	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN UNLABELED	(CAS No) 70648-26-9	0.0000000139	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN UNLABELED	(CAS No) 67562-39-4	0.0000000139	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN UNLABELED	(CAS No) 57117-44-9	0.0000000139	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN UNLABELED	(CAS No) 72918-21-9	0.0000000139	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN UNLABELED	(CAS No) 60851-34-5	0.0000000139	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 19408-74-3	0.0000000139	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:dust,mist), H332 Carc. 1A, H350

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1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 35822-46-9	0.0000000139	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN UNLABELED	(CAS No) 55673-89-7	0.0000000139	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
2,3,7,8-TETRACHLORODIBENZOFURAN UNLABELED	(CAS No) 51207-31-9	0.000000007	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 40321-76-4	0.000000007	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,7,8-PENTACHLORODIBENZOFURAN UNLABELED	(CAS No) 57117-41-6	0.000000007	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
2,3,4,7,8-PENTACHLORODIBENZOFURAN UNLABELED	(CAS No) 57117-31-4	0.000000007	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 4, H413
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 1746-01-6	0.000000007	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413

Name	Product identifier	%	GHS-US classification
N-NONANE UNLABELED	(CAS No) 111-84-2	99.985912804	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation:vapour), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H336 Asp. Tox. 1, H304
TOLUENE UNLABELED	(CAS No) 108-88-3	0.0140298501	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401
OCTACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 3268-87-9 (Unlabeled)	0.0000069637	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 39227-28-6 (Unlabeled)	0.0000027855	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 19408-74-3 (Unlabeled)	0.0000027855	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 57652-85-7 (Unlabeled)	0.0000027855	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 35822-46-9 (Unlabeled)	0.0000027855	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,4,6,7-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) NA	0.0000027855	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 40321-76-4 (Unlabeled)	0.0000013927	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 50585-41-6 (Unlabeled)	0.0000013927	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,4-TETRACHLORODIBENZO-P-DIOXIN (13C12, 99%)	(CAS No) 116865-58-8	0.0000013927	Acute Tox. 1 (Dermal), H310 Muta. 2, H341 STOT SE 2, H371 Asp. Tox. 1, H304
OCTACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 3268-87-9	0.0000000348	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 39227-28-6	0.0000000139	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 57652-85-7	0.0000000139	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413

DIOXIN & FURAN FOOD/FEED/XXX CAL. STANDARD (CS1) (UNLABELED/13C12, 99%) IN NONANE EDF-5554-CS1

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Name	Product identifier	%	GHS-US classification
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 35822-46-9	0.000000139	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 40321-76-4	0.000000007	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN UNLABELED	(CAS No) 1746-01-6	0.000000007	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413

Full text of R- and H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Move out of dangerous area. Consult a physician and show this safety data sheet.
- 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. Rinse skin with water/shower. Wash with plenty of soap and water. Wash contaminated clothing before reuse.
- First-aid measures after eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.
- First-aid measures after ingestion : Immediately call a POISON CENTER or doctor/physician.

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

- Symptoms/injuries after inhalation : Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled. May cause drowsiness or dizziness.
- Symptoms/injuries after skin contact : Causes skin irritation.
- Symptoms/injuries after eye contact : Causes eye irritation.
- Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways.

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 : For small fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Flammable liquid and vapour.
- Explosion hazard : May form flammable/explosive vapour-air mixture.
- Reactivity : Vapors may form explosive mixture with air.

5.3. Advice for firefighters

- Firefighting instructions : Wear self contained breathing apparatus for fire fighting if necessary.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.
- Other information : Use water spray to cool unopened containers.

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 : Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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6.3. Methods and material for containment and cleaning up

For containment : Contain spillage, then collect with non-combustible absorbent material. Disposal should be in accordance with applicable Federal, State and local regulations.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours 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 : 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

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.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DIOXIN & FURAN FOOD/FEED/QQQ CAL. STANDARD (CS1) (UNLABELED/13C12, 99%) IN NONANE		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	200.0000000000 ppm Central Nervous System impairment.
N-NONANE UNLABELED (111-84-2)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	200.0000000000 ppm Central Nervous System impairment.
TOLUENE UNLABELED (108-88-3)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	20.0000000000 ppm Visual impairment, Female reproductive, Pregnancy loss
USA OSHA	OSHA PEL (TWA) (ppm)	100.0000000000 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants 1910.1000
USA OSHA	OSHA PEL (STEL) (ppm)	150.0000000000 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants 1910.1000

8.2. Exposure controls

Appropriate engineering controls : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
 Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Hand protection : protective 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.
 Environmental exposure controls : Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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.
 Molecular mass : 128.3 g/mol

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Colour	: Colourless.
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: -53 °C (- 63 °F) - lit
Boiling point	: 151 °C (304 °F) - lit
Flash point	: 31.0 °C (87.8 °F) - closed cup
Auto-ignition temperature	: 205 °C (401 °F)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable liquid and vapour
Vapour pressure	: 12.4 hPa (9.3 mmHg) at 37.7 °C (99.9 °F)
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 0.718 g/ml at 25 °C (77 °F)
Solubility	: Water: 0 %
Log Pow	: 5.65
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 0.87 - 2.9 % (V)

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Vapors may form explosive mixture with air.

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

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

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if inhaled.

DIOXIN & FURAN FOOD/FEED/QQQ CAL. STANDARD (CS1) (UNLABELED/13C12, 99%) IN NONANE	
LC50 inhalation rat (mg/l)	23760 mg/m ³ male - 4 h
LC50 inhalation rat (ppm)	3200 ppm/4h
ATE CLP (gases)	3200.000 ppmv/4h
ATE CLP (vapours)	11.000 mg/l/4h
ATE CLP (dust,mist)	1.500 mg/l/4h

N-NONANE UNLABELED (111-84-2)	
LC50 inhalation rat (mg/l)	23760 mg/m ³ male - 4 h
LC50 inhalation rat (ppm)	3200 ppm/4h
ATE CLP (gases)	3200.000 ppmv/4h
ATE CLP (vapours)	11.000 mg/l/4h

DIOXIN & FURAN FOOD/FEED/XXX CAL. STANDARD (CS1) (UNLABELED/13C12, 99%) IN NONANE EDF-5554-CS1

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N-NONANE UNLABELED (111-84-2)	
ATE CLP (dust,mist)	23.760 mg/l/4h
TOLUENE UNLABELED (108-88-3)	
LD50 oral rat	> 5580 mg/kg
LD50 dermal rabbit	12196 mg/kg
LC50 inhalation rat (mg/l)	12500 - 28800 mg/m ³ 4 h
ATE CLP (dermal)	12196.000 mg/kg bodyweight
ATE CLP (vapours)	12.500 mg/l/4h
ATE CLP (dust,mist)	12.500 mg/l/4h
2,3,7,8-TETRACHLORODIBENZOFURAN UNLABELED (51207-31-9)	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,7,8-PENTACHLORODIBENZOFURAN (13C12, 99%) (57117-46-6 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
2,3,4,7,8-PENTACHLORODIBENZOFURAN (13C12, 99%) (57117-31-4 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN (13C12, 99%) (40321-76-4 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%) (39227-28-6 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%) (19408-74-3 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN UNLABELED (39227-28-6)	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN UNLABELED (40321-76-4)	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,7,8-PENTACHLORODIBENZOFURAN UNLABELED (57117-41-6)	
ATE CLP (oral)	500.000 mg/kg bodyweight
2,3,4,7,8-PENTACHLORODIBENZOFURAN UNLABELED (57117-31-4)	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN (13C12, 99%) (70648-26-9 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN (13C12, 99%) (72918-21-9 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN (13C12, 99%) (60851-34-5 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN (13C12, 99%) (67562-39-4 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN (13C12, 99%) (57117-44-9 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
2,3,7,8-TETRACHLORODIBENZOFURAN (13C12, 99%) (51207-31-9 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (13C12, 99%) (50585-41-6 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%) (57652-85-7 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN UNLABELED (1746-01-6)	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN UNLABELED (57652-85-7)	
ATE CLP (oral)	500.000 mg/kg bodyweight

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1,2,3,4,7,8-HEXACHLORODIBENZOFURAN UNLABELED (70648-26-9)	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN UNLABELED (67562-39-4)	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN UNLABELED (57117-44-9)	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN UNLABELED (72918-21-9)	
ATE CLP (oral)	500.000 mg/kg bodyweight
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN UNLABELED (60851-34-5)	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN UNLABELED (19408-74-3)	
ATE CLP (oral)	500.000 mg/kg bodyweight
ATE CLP (dermal)	1100.000 mg/kg bodyweight
ATE CLP (dust,mist)	1.500 mg/l/4h
1,2,3,4,6,8,9-HEPTACHLORODIBENZOFURAN (13C12, 99%) (69698-58-4 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN (13C12, 99%) (55673-89-7 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
OCTACHLORODIBENZOFURAN (13C12, 99%) (39001-02-0 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (13C12, 99%) (35822-46-9 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
OCTACHLORODIBENZO-P-DIOXIN (13C12, 99%) (3268-87-9 (Unlabeled))	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN UNLABELED (35822-46-9)	
ATE CLP (oral)	500.000 mg/kg bodyweight
OCTACHLORODIBENZOFURAN UNLABELED (39001-02-0)	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN UNLABELED (55673-89-7)	
ATE CLP (oral)	500.000 mg/kg bodyweight
OCTACHLORODIBENZO-P-DIOXIN UNLABELED (3268-87-9)	
ATE CLP (oral)	500.000 mg/kg bodyweight
1,2,3,4-TETRACHLORODIBENZO-P-DIOXIN (13C12, 99%) (116865-58-8)	
LD50 oral	0.013 mg/kg
LD50 dermal	0.275 mg/kg
ATE CLP (dermal)	5.000 mg/kg bodyweight
1,2,3,4-TETRACHLORODIBENZO-P-DIOXIN (13C6, 99%) (30746-58-8 (Unlabeled))	
ATE CLP (oral)	5.000 mg/kg bodyweight
ATE CLP (dermal)	5.000 mg/kg bodyweight
ATE CLP (dust,mist)	0.050 mg/l/4h
1,2,3,4,6,7-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%) (NA)	
ATE CLP (oral)	500.000 mg/kg bodyweight

Skin corrosion/irritation	: Causes skin irritation. Skin - rat - Skin irritation - Draize test
Serious eye damage/irritation	: Causes serious eye irritation. No data available
Respiratory or skin sensitisation	: Not available No data available
Germ cell mutagenicity	: Not available
Carcinogenicity	: Not classified

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Reproductive toxicity	: Not available
Specific target organ toxicity (single exposure)	: May cause drowsiness or dizziness. May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure)	: Not classified No data available
Aspiration hazard	: May be fatal if swallowed and enters airways.
Potential adverse human health effects and symptoms	: Harmful if inhaled.
Symptoms/injuries after inhalation	: Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled. May cause drowsiness or dizziness.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: Causes eye irritation.
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

12.1. Toxicity

TOLUENE UNLABELED (108-88-3)	
LC50 fish 1	74 - 340 mg/l <i>Lepomis macrochirus</i> (Bluegill) - 96h
LC50 other aquatic organisms 1	10 mg/l <i>Pseudokirchneriella subcapitata</i> (Green algae) - 24 h
EC50 Daphnia 1	8 mg/l <i>Daphnia magna</i> (Water flea) - 24h
LC50 fish 2	7.63 mg/l <i>Oncorhynchus mykiss</i> (Rainbow trout) - 96 h
EC50 Daphnia 2	6 mg/l <i>Daphnia magna</i> (Water flea) - Immobilization - 48 h
ErC50 (algae)	245 mg/l <i>Chlorella vulgaris</i> (Fresh water algae) - 24 h
LOEC (chronic)	8.04 mg/l <i>Pimephales promelas</i> (Fathead minnow) - 7 d
NOEC (chronic)	5.44 mg/l <i>Pimephales promelas</i> (fathead minnow) - 7 d

12.2. Persistence and degradability

1,2,3,7,8-PENTACHLORODIBENZOFURAN (13C12, 99%) (57117-46-6 (Unlabeled))	
Persistence and degradability	Not available.
2,3,4,7,8-PENTACHLORODIBENZOFURAN (13C12, 99%) (57117-31-4 (Unlabeled))	
Persistence and degradability	Not available.
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN (13C12, 99%) (70648-26-9 (Unlabeled))	
Persistence and degradability	Not available.
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN (13C12, 99%) (72918-21-9 (Unlabeled))	
Persistence and degradability	Not available.
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN (13C12, 99%) (60851-34-5 (Unlabeled))	
Persistence and degradability	Not available.
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN (13C12, 99%) (67562-39-4 (Unlabeled))	
Persistence and degradability	Not available.
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN (13C12, 99%) (57117-44-9 (Unlabeled))	
Persistence and degradability	Not available.
2,3,7,8-TETRACHLORODIBENZOFURAN (13C12, 99%) (51207-31-9 (Unlabeled))	
Persistence and degradability	Not available.
1,2,3,4,6,8,9-HEPTACHLORODIBENZOFURAN (13C12, 99%) (69698-58-4 (Unlabeled))	
Persistence and degradability	Not available.
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN (13C12, 99%) (55673-89-7 (Unlabeled))	
Persistence and degradability	Not available.
OCTACHLORODIBENZOFURAN (13C12, 99%) (39001-02-0 (Unlabeled))	
Persistence and degradability	Not available.
1,2,3,4-TETRACHLORODIBENZO-P-DIOXIN (13C12, 99%) (116865-58-8)	
Persistence and degradability	May cause long-term adverse effects in the environment.

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12.3. Bioaccumulative potential

DIOXIN & FURAN FOOD/FEED/PPP CAL. STANDARD (CS1) (UNLABELED/13C12, 99%) IN NONANE	
Log Pow	5.65
Bioaccumulative potential	Indication of bioaccumulation.
N-NONANE UNLABELED (111-84-2)	
Log Pow	5.65
Bioaccumulative potential	Indication of bioaccumulation.
1,2,3,7,8-PENTACHLORODIBENZOFURAN (13C12, 99%) (57117-46-6 (Unlabeled))	
Bioaccumulative potential	Not available.
2,3,4,7,8-PENTACHLORODIBENZOFURAN (13C12, 99%) (57117-31-4 (Unlabeled))	
Bioaccumulative potential	Not available.
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN (13C12, 99%) (70648-26-9 (Unlabeled))	
Bioaccumulative potential	Not available.
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN (13C12, 99%) (72918-21-9 (Unlabeled))	
Bioaccumulative potential	Not available.
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN (13C12, 99%) (60851-34-5 (Unlabeled))	
Bioaccumulative potential	Not available.
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN (13C12, 99%) (67562-39-4 (Unlabeled))	
Bioaccumulative potential	Not available.
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN (13C12, 99%) (57117-44-9 (Unlabeled))	
Bioaccumulative potential	Not available.
2,3,7,8-TETRACHLORODIBENZOFURAN (13C12, 99%) (51207-31-9 (Unlabeled))	
Bioaccumulative potential	Not available.
1,2,3,4,6,8,9-HEPTACHLORODIBENZOFURAN (13C12, 99%) (69698-58-4 (Unlabeled))	
Bioaccumulative potential	Not available.
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN (13C12, 99%) (55673-89-7 (Unlabeled))	
Bioaccumulative potential	Not available.
OCTACHLORODIBENZOFURAN (13C12, 99%) (39001-02-0 (Unlabeled))	
Bioaccumulative potential	Not available.

12.4. Mobility in soil

1,2,3,7,8-PENTACHLORODIBENZOFURAN (13C12, 99%) (57117-46-6 (Unlabeled))	
Ecology - soil	Not available.
2,3,4,7,8-PENTACHLORODIBENZOFURAN (13C12, 99%) (57117-31-4 (Unlabeled))	
Ecology - soil	Not available.
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN (13C12, 99%) (70648-26-9 (Unlabeled))	
Ecology - soil	Not available.
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN (13C12, 99%) (72918-21-9 (Unlabeled))	
Ecology - soil	Not available.
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN (13C12, 99%) (60851-34-5 (Unlabeled))	
Ecology - soil	Not available.
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN (13C12, 99%) (67562-39-4 (Unlabeled))	
Ecology - soil	Not available.
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN (13C12, 99%) (57117-44-9 (Unlabeled))	
Ecology - soil	Not available.
2,3,7,8-TETRACHLORODIBENZOFURAN (13C12, 99%) (51207-31-9 (Unlabeled))	
Ecology - soil	Not available.
1,2,3,4,6,8,9-HEPTACHLORODIBENZOFURAN (13C12, 99%) (69698-58-4 (Unlabeled))	
Ecology - soil	Not available.

DIOXIN & FURAN FOOD/FEED/XXX CAL. STANDARD (CS1) (UNLABELED/13C12, 99%) IN NONANE EDF-5554-CS1

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1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN (13C12, 99%) (55673-89-7 (Unlabeled))

Ecology - soil : Not available.

OCTACHLORODIBENZOFURAN (13C12, 99%) (39001-02-0 (Unlabeled))

Ecology - soil : Not available.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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.

Waste 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 ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No.(DOT) : 1920
DOT NA no. : UN1920

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Nonanes

Transport hazard class(es) (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Hazard labels (DOT) : 3 - Flammable liquid



Packing group (DOT) : III - Minor Danger

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 50 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)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / (1 + a (tr - tf))$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

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

14.3. Additional information

Other information : No supplementary information available.

Overland transport

Packing group (ADR) : III
Class (ADR) : 3 - Flammable liquids
Hazard identification number (Kemler No.) : 30
Classification code (ADR) : F1

DIOXIN & FURAN FOOD/FEED/QQQ CAL. STANDARD (CS1) (UNLABELED/13C12, 99%) IN NONANE EDF-5554-CS1

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Danger labels (ADR) : 3 - Flammable liquids



Orange plates :

Tunnel restriction code : D/E

Limited quantities (ADR) : 5l

EAC code : 3Y

Excepted quantities (ADR) : E1

Transport by sea

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

MFAG-No : 128

Air transport

DOT Quantity Limitations Passenger aircraft/rail : 60 L
(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 220 L
CFR 175.75)

Civil Aeronautics Law : Flammable liquids(Hazardous materials notice Appended Table 1 Article 194 of the Enforcement Regulations)

14.4. Environmental hazards

Other information : No supplementary information available.

14.5. Special precautions for user

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

DIOXIN & FURAN FOOD/FEED/QQQ CAL. STANDARD (CS1) (UNLABELED/13C12, 99%) IN NONANE

SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard
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N-NONANE UNLABELED (111-84-2)

SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard
-------------------------------------	--

TOLUENE UNLABELED (108-88-3)

Subject to reporting requirements of United States SARA Section 313

SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
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1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN (13C12, 99%) (40321-76-4 (Unlabeled))

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%) (39227-28-6 (Unlabeled))

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%) (19408-74-3 (Unlabeled))

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN UNLABELED (39227-28-6)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

DIOXIN & FURAN FOOD/FEED/QQQ CAL. STANDARD (CS1) (UNLABELED/13C12, 99%) IN NONANE EDF-5554-CS1

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1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN UNLABELED (40321-76-4)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (13C12, 99%) (50585-41-6 (Unlabeled))

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%) (57652-85-7 (Unlabeled))

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN UNLABELED (1746-01-6)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN UNLABELED (57652-85-7)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (13C12, 99%) (35822-46-9 (Unlabeled))

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

OCTACHLORODIBENZO-P-DIOXIN (13C12, 99%) (3268-87-9 (Unlabeled))

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN UNLABELED (35822-46-9)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

OCTACHLORODIBENZO-P-DIOXIN UNLABELED (3268-87-9)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

1,2,3,4-TETRACHLORODIBENZO-P-DIOXIN (13C12, 99%) (116865-58-8)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

1,2,3,4,6,7-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%) (NA)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

DIOXIN & FURAN FOOD/FEED/QQQ CAL. STANDARD (CS1) (UNLABELED/13C12, 99%) IN NONANE

Listed on the Canadian DSL (Domestic Substances List)

TOLUENE UNLABELED (108-88-3)

Listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

15.3. US State regulations

DIOXIN & FURAN FOOD/FEED/QQQ CAL. STANDARD (CS1) (UNLABELED/13C12, 99%) IN NONANE()

State or local regulations

U.S. - Massachusetts - Right To Know List
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.

DIOXIN & FURAN FOOD/FEED/XXX CAL. STANDARD (CS1) (UNLABELED/13C12, 99%) IN NONANE EDF-5554-CS1

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N-NONANE UNLABELED (111-84-2)

U.S. - Massachusetts - Right To Know List
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.

TOLUENE UNLABELED (108-88-3)

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
WARNING! This product contains a chemical known by the state of California to cause birth defects or other reproductive harm.

1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN (13C12, 99%) (40321-76-4 (Unlabeled))

WARNING! This product contains a chemical known by the state of California to cause cancer, birth defects or other reproductive harm.

1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%) (39227-28-6 (Unlabeled))

WARNING! This product contains a chemical known by the state of California to cause cancer, birth defects or other reproductive harm.

1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%) (19408-74-3 (Unlabeled))

WARNING! This product contains a chemical known by the state of California to cause cancer, birth defects or other reproductive harm.

1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN UNLABELED (39227-28-6)

WARNING! This product contains a chemical known by the state of California to cause cancer, birth defects or other reproductive harm.

1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN UNLABELED (40321-76-4)

WARNING! This product contains a chemical known by the state of California to cause cancer, birth defects or other reproductive harm.

2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (13C12, 99%) (50585-41-6 (Unlabeled))

WARNING! This product contains a chemical known by the state of California to cause cancer, birth defects or other reproductive harm.

1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%) (57652-85-7 (Unlabeled))

WARNING! This product contains a chemical known by the state of California to cause cancer, birth defects or other reproductive harm.

2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN UNLABELED (1746-01-6)

WARNING! This product contains a chemical known by the state of California to cause cancer, birth defects or other reproductive harm.

1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN UNLABELED (57652-85-7)

WARNING! This product contains a chemical known by the state of California to cause cancer, birth defects or other reproductive harm.

1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (13C12, 99%) (35822-46-9 (Unlabeled))

WARNING! This product contains a chemical known by the state of California to cause cancer, birth defects or other reproductive harm.

OCTACHLORODIBENZO-P-DIOXIN (13C12, 99%) (3268-87-9 (Unlabeled))

WARNING! This product contains a chemical known by the state of California to cause cancer, birth defects or other reproductive harm.

DIOXIN & FURAN FOOD/FEED/FFF CAL. STANDARD (CS1) (UNLABELED/13C12, 99%) IN NONANE EDF-5554-CS1

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1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN UNLABELED (35822-46-9)

WARNING! This product contains a chemical known by the state of California to cause cancer, birth defects or other reproductive harm.

OCTACHLORODIBENZO-P-DIOXIN UNLABELED (3268-87-9)

WARNING! This product contains a chemical known by the state of California to cause cancer, birth defects or other reproductive harm.

1,2,3,4-TETRACHLORODIBENZO-P-DIOXIN (13C12, 99%) (116865-58-8)

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
WARNING! This product contains a chemical known by the state of California to cause birth defects or other reproductive harm.

1,2,3,4,6,7-HEXACHLORODIBENZO-P-DIOXIN (13C12, 99%) (NA)

WARNING! This product contains a chemical known by the state of California to cause cancer, birth defects or other reproductive harm.

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-statements:

Acute Tox. 1 (Dermal)	Acute toxicity (dermal), Category 1
Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Acute Tox. 2 (Oral)	Acute toxicity (oral), Category 2
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 4	Hazardous to the aquatic environment — Chronic Hazard, Category 4
Asp. Tox. 1	Aspiration hazard, Category 1
Carc. 1A	Carcinogenicity, Category 1A
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Muta. 2	Germ cell mutagenicity, Category 2
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 2	Specific target organ toxicity — Single exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapour
H226	Flammable liquid and vapour
H300	Fatal if swallowed
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H310	Fatal 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
H336	May cause drowsiness or dizziness
H341	Suspected of causing genetic defects
H350	May cause cancer
H361	Suspected of damaging fertility or the unborn child
H371	May cause damage to organs

DIOXIN & FURAN FOOD/FEED/XXX CAL. STANDARD (CS1) (UNLABELED/13C12, 99%) IN NONANE EDF-5554-CS1

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H373	May cause damage to organs through prolonged or repeated exposure
H413	May cause long lasting harmful effects to aquatic life
R10	Flammable
R11	Highly flammable
R20	Harmful by inhalation
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed
R22	Harmful if swallowed
R26/27/28	Very toxic by inhalation, in contact with skin and if swallowed
R27	Very toxic in contact with skin
R28	Very toxic if swallowed
R36	Irritating to eyes
R38	Irritating to skin
R40	Limited evidence of a carcinogenic effect
R45	May cause cancer
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R53	May cause long-term adverse effects in the aquatic environment
R62	Possible risk of impaired fertility
R63	Possible risk of harm to the unborn child
R65	Harmful: may cause lung damage if swallowed
R67	Vapours may cause drowsiness and dizziness
R68	Possible risk of irreversible effects
F	Highly flammable
N	Dangerous for the environment
T+	Very toxic
Xi	Irritant
Xn	Harmful

NFPA health hazard

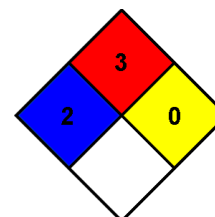
: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard

: 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



HMIS III Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 3 Serious 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