

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Issue date: 3/22/2023 Version: 1.0

## **SECTION 1: Identification**

#### 1.1. Identification

Product form : Mixture

Product name DIOXIN/FURAN NATIVE MIX ALL (17) 2378 ISOMERS + 1368 TCDD/F + 1379 TCDD

(UNLABELED) 1/2/5 UG/ML

Product code : EDF-5493

#### 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 - 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 2	H225	Highly flammable liquid and vapor
Acute toxicity (inhalation:dust,mist) Category 4	H332	Harmful if inhaled
Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2	H319	Causes serious eye irritation
Reproductive toxicity Category 2	H361	Suspected of damaging fertility or the unborn child
Specific target organ toxicity - Single exposure, Category 3, Narcosis	H336	May cause drowsiness or dizziness
Specific target organ toxicity (repeated exposure) Category 2	H373	May cause damage to organs through prolonged or repeated
		exposure
Hazardous to the aquatic environment — Chronic Hazard Category 2	<b>⊔</b> //11	Toxic to aquatic life with long lasting effects

Hazardous to the aquatic environment – Chronic Hazard Category 2

Toxic 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

## Safety Data Sheet

Precautionary statements (GHS US)

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

Hazard statements (GHS US) : H225 - Highly flammable liquid and vapor

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H332 - Harmful if inhaled

H336 - May cause drowsiness or dizziness

H361 - Suspected of damaging fertility or the unborn child

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

H411 - Toxic to aquatic life with long lasting effects

P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

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/ventilating/lighting equipment.

P242 - Use only non-sparking tools.

P243 - Take precautionary measures against static discharge.

P260 - Do not breathe dust/fume/gas/mist/vapors/spray.

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.

P264 - Wash hands, forearms and face thoroughly after handling.

P271 - Use only outdoors or in a well-ventilated area.

P273 - Avoid release to the environment.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

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.

 ${\tt P305+P351+P338-IF\ IN\ EYES:\ Rinse\ cautiously\ with\ water\ for\ several\ minutes.\ Remove}$ 

contact lenses, if present and easy to do. Continue rinsing.

P308+P313 - If exposed or concerned: Get medical advice/attention.

P312 - Call a poison center or doctor if you feel unwell.

P314 - Get medical advice/attention if you feel unwell.

P321 - Specific treatment (see supplemental first aid instruction on this label).

P332+P313 - If skin irritation occurs: Get medical advice/attention.

P337+P313 - If eye irritation persists: Get medical advice/attention.

P362+P364 - Take off contaminated clothing and wash it before reuse.

P370+P378 - In case of fire: Use media other than water to extinguish.

P391 - Collect spillage.

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 hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

#### 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

## Safety Data Sheet

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

## 3.2. Mixtures

Name	Product identifier	%	GHS US classification
N-NONANE UNLABELED	CAS-No.: 111-84-2	82.31903	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	15.61787	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
TOLUENE UNLABELED	CAS-No.: 108-88-3	2.05795	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
OCTACHLORODIBENZOFURAN UNLABELED	CAS-No.: 39001-02-0	0.00068	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Aquatic Chronic 4, H413
OCTACHLORODIBENZO-P-DIOXIN UNLABELED	CAS-No.: 3268-87-9	0.00068	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	0.00027	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN UNLABELED	CAS-No.: 19408-74-3	0.00027	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Carc. 1A, H350
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN UNLABELED	CAS-No.: 57117-44-9	0.00027	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Aquatic Chronic 4, H413
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN UNLABELED	CAS-No.: 60851-34-5	0.00027	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Aquatic Chronic 4, H413
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN UNLABELED	CAS-No.: 67562-39-4	0.00027	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Aquatic Chronic 4, H413
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN UNLABELED	CAS-No.: 57652-85-7	0.00027	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413

## Safety Data Sheet

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

Name	Product identifier	%	GHS US classification
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN UNLABELED	CAS-No.: 70648-26-9	0.00027	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Aquatic Chronic 4, H413
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN UNLABELED	CAS-No.: 72918-21-9	0.00027	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Aquatic Chronic 4, H413
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN UNLABELED	CAS-No.: 35822-46-9	0.00027	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	0.00027	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Aquatic Chronic 4, H413
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN UNLABELED	CAS-No.: 1746-01-6	0.00014	Acute Tox. 4 (Oral), H302 Asp. Tox. 1, H304 Aquatic Chronic 4, H413
2,3,7,8-TETRACHLORODIBENZOFURAN UNLABELED	CAS-No.: 51207-31-9	0.00014	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Aquatic Chronic 4, H413
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN UNLABELED	CAS-No.: 40321-76-4	0.00014	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	0.00014	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Aquatic Chronic 4, H413
2,3,4,7,8-PENTACHLORODIBENZOFURAN UNLABELED	CAS-No.: 57117-31-4	0.00014	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Aquatic Chronic 4, H413
1,3,6,8-TETRACHLORODIBENZO-P-DIOXIN UNLABELED	CAS-No.: 33423-92-6	0.00014	Acute Tox. 1 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 1 (Inhalation), H330 Carc. 1A, H350
1,3,6,8-TETRACHLORODIBENZOFURAN UNLABELED	CAS-No.: 71998-72-6	0.00014	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 4, H413
1,3,7,9-TETRACHLORODIBENZO-P-DIOXIN UNLABELED  Full text of bazard classes and H-statements : see section 16	CAS-No.: 62470-53-5	0.00014	Acute Tox. 1 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 1 (Inhalation), H330 Carc. 1A, H350

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 : If you feel unwell, seek medical advice (show the label where possible). Evacuate danger area.

## Safety Data Sheet

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

First-aid measures after inhalation : When symptoms occur: go into open air and ventilate suspected area. If not breathing give artificial respiration. Get medical advice/attention.

First-aid measures after skin contact : Wash with plenty of soap and water. and soap. Get immediate medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get

medical advice/attention.

#### 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. May cause damage to organs through prolonged or repeated exposure. Suspected of damaging fertility. Suspected of damaging the unborn child.

Symptoms/effects after inhalation Symptoms/effects after skin contact Symptoms/effects after eye contact Symptoms/effects after ingestion

: Harmful if inhaled.: Causes skin irritation.: Causes serious eye irritation.: May be harmful if swallowed.

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

No additional information available

## **SECTION 5: Fire-fighting measures**

## 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media

: Suitable extinguishing agents: Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

## 5.2. Specific hazards arising from the chemical

Fire hazard : Highly flammable liquid and vapor.

Hazardous decomposition products in case of fire : Carbon oxides (CO, CO2).

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

Firefighting instructions : Fight fire with normal precautions from a reasonable distance. Wear a self contained breathing

apparatus. Do not enter fire area without proper protective equipment, including respiratory

protection.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear

recommended personal protective equipment.

## **SECTION 6: Accidental release measures**

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

## 6.1.1. For non-emergency personnel

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

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

Prevent entry to sewers and public waters. Do not allow to enter drains or water courses. Avoid release to the environment.

3/22/2023 (Issue date) US - en 5/28

## Safety Data Sheet

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

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

For containment : For large spills, co

: For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal. Small quantities of liquid spill: take up in non-combustible absorbent material and

shovel into container for disposal.

Methods for cleaning up : This material and its container must be disposed of in a safe way, and as per local legislation.

## 6.4. Reference to other sections

For further information refer to section 13.

## **SECTION 7: Handling and storage**

## 7.1. Precautions for safe handling

Precautions for safe handling : Provide adequate ventilation to minimize dust and/or vapor concentrations.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or

smoking and when leaving work. Handle in accordance with good industrial hygiene and safety

practice.

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

Technical measures : Store in a well-ventilated place. Keep container tightly closed. Storage conditions : Store at room temperature away from light and moisture.

## **SECTION 8: Exposure controls/personal protection**

## 8.1. Control parameters

DIOXIN/FURAN NATIVE MIX ALL (17) 2378 ISOMERS + 1368 TCDD/F + 1379 TCDD (UNLABELED) 1/2/5 UG/ML		
No additional information available		
N-NONANE UNLABELED (111-84-2)		
USA - ACGIH - Occupational Exposure Limits		
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.	
USA - OSHA - Occupational Exposure Limits		
OSHA PEL TWA [1]	1050 mg/m³ 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.	
USA - NIOSH - Occupational Exposure Limits		
NIOSH REL TWA	1050 mg/m³ USA. NIOSH Recommended Exposure Limits	
NIOSH REL TWA [ppm]	200 ppm USA. NIOSH Recommended Exposure Limits	
Remark (NIOSH)	Central Nervous System impairment	

## Safety Data Sheet

ISOOCTANE UNLABELED (540-84-1)		
USA - ACGIH - Occupational Exposure Limits		
ACGIH OEL TWA [ppm]	300 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)	
Remark (ACGIH)	Upper Respiratory Tract irritation	
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.	
TOLUENE UNLABELED (108-88-3)		
USA - ACGIH - Occupational Exposure Limits		
ACGIH OEL TWA [ppm]	20 ppm USA. ACGIH Threshold Limit Values (TLV)	
Remark (ACGIH)	Visual impairment. Female reproductive. Pregnancy loss. 2015 Adoption. Substances for which there is a Biological Exposure Index or Indices (see BEI® section). Not classifiable as a human carcinogen.; Component: Toluene CAS-No.: 108-88-3 Parameters: Toluene Value: 0.0300 mg/l Biological specimen: Urine Remarks: End of shift (As soon as possible after exposure ceases) Basis: ACGIH - Biological Exposure Indices (BEI); Component: Toluene CAS-No.: 108-88-3 Parameters: Toluene Value: 0.0200 mg/l Biological specimen: In blood Remarks: Prior to last shift of workweek Basis: ACGIH - Biological Exposure Indices (BEI); Component: Toluene CAS-No.: 108-88-3 Parameters: o-Cresol Value: 0.3000 mg/g Biological specimen: Urine Remarks: End of shift (As soon as possible after exposure ceases) Basis: ACGIH - Biological Exposure Indices (BEI)	
USA - OSHA - Occupational Exposure Limits		
OSHA PEL TWA [1]	375 mg/m³ USA. OSHA - TABLE Z-1 Limits for Air Contaminants 1910.1000	
OSHA PEL TWA [2]	100 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants 1910.1000	
OSHA PEL STEL [1]	560 mg/m³ USA. OSHA - TABLE Z-1 Limits for Air Contaminants 1910.1000	
OSHA PEL STEL [2]	150 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants 1910.1000	
OSHA PEL C [ppm]	300 ppm USA. Occupational Exposure Limits (OSHA) - Table Z-2	
Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift	500 ppm USA. Occupational Exposure Limits (OSHA) - Table Z-2	
Remark (OSHA)	OSHA PEL (TWA) - 200 ppm - USA. Occupational Exposure Limits (OSHA) - Table Z-2. Remarks: Z37.12-1967	
USA - NIOSH - Occupational Exposure Limits		
NIOSH REL TWA	375 mg/m³ USA. NIOSH Recommended Exposure Limits	
NIOSH REL TWA [ppm]	100 ppm USA. NIOSH Recommended Exposure Limits	
NIOSH REL STEL	560 mg/m³ USA. NIOSH Recommended Exposure Limits	
NIOSH REL STEL [ppm]	150 ppm USA. NIOSH Recommended Exposure Limits	
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN UNLABELED (1746-01-6)		
No additional information available		
2,3,7,8-TETRACHLORODIBENZOFURAN UNLABELED (51207-31-9)		
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.	

## Safety Data Sheet

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1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	UNLABELED (40321-76-4)		
No additional information available			
1,2,3,7,8-PENTACHLORODIBENZOFURAN UN	ILABELED (57117-41-6)		
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.		
2,3,4,7,8-PENTACHLORODIBENZOFURAN UN	ILABELED (57117-31-4)		
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.		
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	UNLABELED (39227-28-6)		
No additional information available			
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	UNLABELED (19408-74-3)		
No additional information available			
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN UI	NLABELED (57117-44-9)		
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.		
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN UNLABELED (60851-34-5)			
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.		
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	I UNLABELED (67562-39-4)		
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.		
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN UNLABELED (57652-85-7)			
No additional information available			
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN UNLABELED (70648-26-9)			
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.		
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN UNLABELED (72918-21-9)			
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.		
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN UNLABELED (35822-46-9)			
No additional information available			

## Safety Data Sheet

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

#### **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.

## 1,3,6,8-TETRACHLORODIBENZO-P-DIOXIN UNLABELED (33423-92-6)

No additional information available

## 1,3,6,8-TETRACHLORODIBENZOFURAN UNLABELED (71998-72-6)

No additional information available

#### 1,3,7,9-TETRACHLORODIBENZO-P-DIOXIN UNLABELED (62470-53-5)

No additional information available

## **OCTACHLORODIBENZOFURAN UNLABELED (39001-02-0)**

## **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.

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

No additional information available

#### 8.2. Appropriate engineering controls

Appropriate engineering controls

: Wash hands and other exposed areas with mild soap and water before eating, drinking or

Environmental exposure controls

smoking and when leaving work.Avoid release to the environment.

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

#### Personal protective equipment:

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

#### Materials for protective clothing:

Wear suitable protective clothing and gloves

#### Hand protection:

Wear suitable protective clothing and gloves

#### Eye protection:

Wear eye protection. Chemical goggles or face shield with safety glasses

## Skin and body protection:

Wear suitable protective clothing, gloves and eye/face protection

## Respiratory protection:

In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator

## Safety Data Sheet

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

#### Personal protective equipment symbol(s):









## **SECTION 9: Physical and chemical properties**

## 9.1. Information on basic physical and chemical properties

Physical state: LiquidAppearance: Liquid.Color: Colorless

No data available Odor Odor threshold : No data available рΗ : No data available Melting point No data available Freezing point No data available Boiling point No data available Flash point No data available Relative evaporation rate (butyl acetate=1) 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 Partition coefficient n-octanol/water (Log Pow) : No data available Auto-ignition temperature : No data available Decomposition temperature : No data available Viscosity, kinematic : No data available No data available Viscosity, dynamic **Explosion limits** No data available Explosive properties No data available

## 9.2. Other information

Oxidizing properties

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

No data available

## Safety Data Sheet

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

## 10.5. Incompatible materials

Strong oxidizing agents.

## 10.6. Hazardous decomposition products

Carbon oxides (CO, CO2).

## **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

Acute toxicity (inhalation) :	Harmful if inhaled.		
DIOXIN/FURAN NATIVE MIX ALL (17) 2378 ISOMERS + 1368 TCDD/F + 1379 TCDD (UNLABELED) 1/2/5 UG/ML			
ATE US (dust, mist)	1.822 mg/l/4h		
N-NONANE UNLABELED (111-84-2)	N-NONANE UNLABELED (111-84-2)		
LC50 Inhalation - Rat	23760 mg/m³ 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		
ISOOCTANE UNLABELED (540-84-1)			
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)		
TOLUENE UNLABELED (108-88-3)			
TOLUENE UNLABELED (108-88-3)			
TOLUENE UNLABELED (108-88-3)  LD50 oral rat	> 5580 mg/kg		
, , , ,	> 5580 mg/kg 12196 mg/kg		
LD50 oral rat	7-7		
LD50 oral rat LD50 dermal rabbit	12196 mg/kg		
LD50 oral rat  LD50 dermal rabbit  LC50 Inhalation - Rat	12196 mg/kg 12,500 - 28,800 mg/m3 - 4 h		
LD50 oral rat  LD50 dermal rabbit  LC50 Inhalation - Rat  ATE US (dermal)	12196 mg/kg  12,500 - 28,800 mg/m3 - 4 h  12196 mg/kg body weight		
LD50 oral rat  LD50 dermal rabbit  LC50 Inhalation - Rat  ATE US (dermal)  ATE US (vapors)	12196 mg/kg  12,500 - 28,800 mg/m3 - 4 h  12196 mg/kg body weight  12.5 mg/l/4h  12.5 mg/l/4h		
LD50 oral rat  LD50 dermal rabbit  LC50 Inhalation - Rat  ATE US (dermal)  ATE US (vapors)  ATE US (dust, mist)	12196 mg/kg  12,500 - 28,800 mg/m3 - 4 h  12196 mg/kg body weight  12.5 mg/l/4h  12.5 mg/l/4h		
LD50 oral rat  LD50 dermal rabbit  LC50 Inhalation - Rat  ATE US (dermal)  ATE US (vapors)  ATE US (dust, mist)  2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN UI	12196 mg/kg  12,500 - 28,800 mg/m3 - 4 h  12196 mg/kg body weight  12.5 mg/l/4h  12.5 mg/l/4h  NLABELED (1746-01-6)  500 mg/kg body weight		
LD50 oral rat  LD50 dermal rabbit  LC50 Inhalation - Rat  ATE US (dermal)  ATE US (vapors)  ATE US (dust, mist)  2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN UI  ATE US (oral)	12196 mg/kg  12,500 - 28,800 mg/m3 - 4 h  12196 mg/kg body weight  12.5 mg/l/4h  12.5 mg/l/4h  NLABELED (1746-01-6)  500 mg/kg body weight		
LD50 oral rat  LD50 dermal rabbit  LC50 Inhalation - Rat  ATE US (dermal)  ATE US (vapors)  ATE US (dust, mist)  2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN UI  ATE US (oral)	12196 mg/kg  12,500 - 28,800 mg/m3 - 4 h  12196 mg/kg body weight  12.5 mg/l/4h  12.5 mg/l/4h  NLABELED (1746-01-6)  500 mg/kg body weight  ABELED (51207-31-9)  500 mg/kg body weight		

## Safety Data Sheet

1,2,3,7,8-PENTACHLORODIBENZOFURAN UN	1,2,3,7,8-PENTACHLORODIBENZOFURAN UNLABELED (57117-41-6)		
ATE US (oral)	500 mg/kg body weight		
2,3,4,7,8-PENTACHLORODIBENZOFURAN UN	LABELED (57117-31-4)		
ATE US (oral)	500 mg/kg body weight		
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	UNLABELED (39227-28-6)		
ATE US (oral)	500 mg/kg body weight		
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	UNLABELED (19408-74-3)		
ATE US (oral)	500 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		
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN UN	ILABELED (57117-44-9)		
ATE US (oral)	500 mg/kg body weight		
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN UN	NLABELED (60851-34-5)		
ATE US (oral)	500 mg/kg body weight		
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	UNLABELED (67562-39-4)		
ATE US (oral)	500 mg/kg body weight		
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN UNLABELED (57652-85-7)			
ATE US (oral)	500 mg/kg body weight		
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN UN	ILABELED (70648-26-9)		
ATE US (oral)	500 mg/kg body weight		
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN UN	ILABELED (72918-21-9)		
ATE US (oral)	500 mg/kg body weight		
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN UNLABELED (35822-46-9)			
ATE US (oral)	500 mg/kg body weight		
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN UNLABELED (55673-89-7)			
ATE US (oral)	500 mg/kg body weight		
1,3,6,8-TETRACHLORODIBENZO-P-DIOXIN UNLABELED (33423-92-6)			
ATE US (oral)	0.5 mg/kg body weight		
ATE US (dermal)	5 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		

## Safety Data Sheet

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

-		
1,3,6,8-TETRACHLORODIBENZOFURAN UNLABELED (71998-72-6)		
ATE US (oral)	500 mg/kg body weight	
1,3,7,9-TETRACHLORODIBENZO-P-DIOXIN U	NLABELED (62470-53-5)	
ATE US (oral)	0.5 mg/kg body weight	
ATE US (dermal)	5 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	
OCTACHLORODIBENZOFURAN UNLABELED	(39001-02-0)	
ATE US (oral)	500 mg/kg body weight	
OCTACHLORODIBENZO-P-DIOXIN UNLABEL	ED (3268-87-9)	
ATE US (oral)	500 mg/kg body weight	
Skin corrosion/irritation :	Causes skin irritation.	
Serious eye damage/irritation :	Causes serious eye irritation.	
Respiratory or skin sensitization :	Not classified	
	Not classified	
	Not classified	
TOLUENE UNLABELED (108-88-3)		
IARC group	3 - Not classifiable	
2,3,4,7,8-PENTACHLORODIBENZOFURAN UN	ILABELED (57117-31-4)	
IARC group	1 - Carcinogenic to humans	
Reproductive toxicity :	Suspected of damaging fertility or the unborn child.	
STOT-single exposure :	May cause drowsiness or dizziness.	
N-NONANE UNLABELED (111-84-2)		
STOT-single exposure	May cause drowsiness or dizziness.	
ISOOCTANE UNLABELED (540-84-1)		
STOT-single exposure	May cause drowsiness or dizziness.	
TOLUENE UNLABELED (108-88-3)		
STOT-single exposure	May cause drowsiness or dizziness.	
1,3,6,8-TETRACHLORODIBENZOFURAN UNLABELED (71998-72-6)		
STOT-single exposure	May cause respiratory irritation.	
STOT-repeated exposure :	May cause damage to organs through prolonged or repeated exposure.	
TOLUENE UNLABELED (108-88-3)		
STOT-repeated exposure	May cause damage to organs (kidneys, liver, urinary bladder, brain) through prolonged or repeated exposure (Dermal, Inhalation, oral).	
•	Not classified No data available	
N-NONANE UNLABELED (111-84-2)		
Viscosity, kinematic	≤ 1.008 mm²/s at 20 °C (68 °F)	

3/22/2023 (Issue date) US - en 13/28

## 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. May cause damage to organs through prolonged or repeated exposure. Suspected of damaging fertility. Suspected of damaging the unborn child.

Symptoms/effects after inhalation Symptoms/effects after skin contact Symptoms/effects after eye contact Symptoms/effects after ingestion : Harmful if inhaled.: Causes skin irritation.: Causes serious eye irritation.: May be harmful if swallowed.

## **SECTION 12: Ecological information**

## 12.1. Toxicity

Ecology - general : Toxic to aquatic life with long lasting effects.

TOLUENE UNLABELED (108-88-3)		
EC50 - Crustacea [1]	8 mg/l Daphnia magna (Water flea) - 24h	
LC50 - Fish [2]	7.63 mg/l Oncorhynchus mykiss (Rainbow trout) - 96 h	
EC50 - Crustacea [2]	6 mg/l Daphnia magna (Water flea) - Immobilization - 48 h	
ErC50 algae	245 mg/l Chlorella vulgaris (Fresh water algae) - 24 h	
ErC50 other aquatic plants	10 mg/l Pseudokirchneriella subcapitata (Green algae) - 24 h	
NOEC (chronic)	5.44 mg/l Pimephales promelas (fathead minnow) - 7 d	

## 12.2. Persistence and degradability

<b>TOLUENE UNLABELED (108-88-3)</b>	
Persistence and degradability	Readily biodegradable.

## 12.3. Bioaccumulative potential

N-NONANE UNLABELED (111-84-2)				
Partition coefficient n-octanol/water (Log Pow) 5.65				
Bioaccumulative potential Indication of bioaccumulation.				
ISOOCTANE UNLABELED (540-84-1)				
Partition coefficient n-octanol/water (Log Pow) 4.6				
TOLUENE UNLABELED (108-88-3)				
BCF - Fish [1] 0.05 mg/l Leuciscus idus (Golden orfe) - 3 d				
Bioconcentration factor (BCF REACH)	90			

## 12.4. Mobility in soil

No additional information available

## 12.5. Other adverse effects

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

3/22/2023 (Issue date) US - en 14/28

## Safety Data Sheet

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

## **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.

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 : UN1262 UN-No. (TDG) UN1262 UN-No. (IMDG) 1262 UN-No. (IATA) 1262

## 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Octanes Proper Shipping Name (TDG) **OCTANES** Proper Shipping Name (IMDG) **OCTANES** Proper Shipping Name (IATA) Octanes

## 14.3. Transport hazard class(es)

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

Hazard labels (DOT)



#### **TDG**

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



#### **IMDG**

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



## Safety Data Sheet

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

#### IATA

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



#### 14.4. Packing group

: II Packing group (DOT) : 11 Packing group (TDG) Packing group (IMDG) : 11 Packing group (IATA) : 11

## 14.5. Environmental hazards

Dangerous for the environment : Yes Marine pollutant : Yes



Other information : No supplementary information available.

#### 14.6. Special precautions for user

DOT

UN-No.(DOT) : UN1262

DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite

(31HZ1). 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.

T4 - 2.65 178.274(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) 202 DOT Packaging Bulk (49 CFR 173.xxx) 242 DOT Quantity Limitations Passenger aircraft/rail (49 : 5 L

CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49

**DOT Vessel Stowage Location** 

: 60 L

CFR 175.75)

: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this

section is exceeded.

: UN1262 UN-No. (TDG) Explosive Limit and Limited Quantity Index : 1L

## Safety Data Sheet

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

Excepted quantities (TDG) : E2
Passenger Carrying Road Vehicle or Passenger : 5 L

Carrying Railway Vehicle Index

Emergency Response Guide (ERG) Number : 128

**IMDG** 

Limited quantities (IMDG) : 1 L

Excepted quantities (IMDG) : E2

Packing instructions (IMDG) : P001

IBC packing instructions (IMDG) : IBC02

Tank instructions (IMDG) : T4

Tank special provisions (IMDG) : TP2

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) : B Flash point (IMDG) : '

Properties and observations (IMDG) : Colourless liquids. Explosive limits: 1% to 6.5% ISOOCTANE: flashpoint-12°C c.c. n-OCTANE:

flashpoint 13°C c.c. Immiscible with water.

IATA

PCA Excepted quantities (IATA) : E2 PCA Limited quantities (IATA) : Y341 PCA limited quantity max net quantity (IATA) : 1L : 353 PCA packing instructions (IATA) : 5L PCA max net quantity (IATA) CAO packing instructions (IATA) : 364 CAO max net quantity (IATA) : 60L ERG code (IATA) : 3H

## 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

DIOXIN/FURAN NATIVE MIX ALL (17) 2378 ISOMERS + 1368 TCDD/F + 1379 TCDD (UNLABELED) 1/2/5 UG/ML				
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.			

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
N-NONANE UNLABELED	111-84-2	Present	Active	Т
ISOOCTANE UNLABELED	540-84-1	Present	Active	
TOLUENE UNLABELED	108-88-3	Present	Active	
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN UNLABELED	1746-01-6	Not present	-	
2,3,7,8-TETRACHLORODIBENZOFURAN UNLABELED	51207-31-9	Not present	-	
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN UNLABELED	40321-76-4	Not present	-	

## Safety Data Sheet

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

Name	CAS-No.	Listing	Commercial status	Flags
1,2,3,7,8-PENTACHLORODIBENZOFURAN UNLABELED	57117-41-6	Not present	-	
2,3,4,7,8-PENTACHLORODIBENZOFURAN UNLABELED	57117-31-4	Not present	-	
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN UNLABELED	39227-28-6	Not present	-	
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN UNLABELED	19408-74-3	Not present	-	
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN UNLABELED	57117-44-9	Not present	-	
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN UNLABELED	60851-34-5	Not present	-	
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN UNLABELED	67562-39-4	Not present	-	
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN UNLABELED	57652-85-7	Not present	-	
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN UNLABELED	70648-26-9	Not present	-	
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN UNLABELED	72918-21-9	Not present	-	
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN UNLABELED	35822-46-9	Not present	-	
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN UNLABELED	55673-89-7	Not present	-	
1,3,6,8-TETRACHLORODIBENZO-P-DIOXIN UNLABELED	33423-92-6	Not present	-	
1,3,6,8-TETRACHLORODIBENZOFURAN UNLABELED	71998-72-6	Not present	-	
1,3,7,9-TETRACHLORODIBENZO-P-DIOXIN UNLABELED	62470-53-5	Not present	-	
OCTACHLORODIBENZOFURAN UNLABELED	39001-02-0	Not present	-	
OCTACHLORODIBENZO-P-DIOXIN UNLABELED	3268-87-9	Not present	-	

N-NONANE UNLABELED (111-84-2)				
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			

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

Not subject to reporting requirements of the United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)

## Safety Data Sheet

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

ISOOCTANE UNLABELED (540-84-1)			
CERCLA RQ 1000 lb			
SARA Section 311/312 Hazard Classes	Fire hazard Delayed (chronic) health hazard		

TOLUENE UNLABELED (108-88-3)				
CERCLA RQ 1000 lb				
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	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard			

2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN UNLABELED (1746-01-6)				
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.			

## 2,3,7,8-TETRACHLORODIBENZOFURAN UNLABELED (51207-31-9)

Subject to reporting requirements of United States SARA Section 313

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

Subject to reporting requirements of United States SARA Section 313

## 1,2,3,7,8-PENTACHLORODIBENZOFURAN UNLABELED (57117-41-6)

Subject to reporting requirements of United States SARA Section 313

## 2,3,4,7,8-PENTACHLORODIBENZOFURAN UNLABELED (57117-31-4)

Subject to reporting requirements of United States SARA Section 313

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

Subject to reporting requirements of United States SARA Section 313

## 1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN UNLABELED (19408-74-3)

Subject to reporting requirements of United States SARA Section 313

## 1,2,3,6,7,8-HEXACHLORODIBENZOFURAN UNLABELED (57117-44-9)

Subject to reporting requirements of United States SARA Section 313

## 2,3,4,6,7,8-HEXACHLORODIBENZOFURAN UNLABELED (60851-34-5)

Subject to reporting requirements of United States SARA Section 313

## Safety Data Sheet

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

#### 1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN UNLABELED (67562-39-4)

Subject to reporting requirements of United States SARA Section 313

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

SARA Section 302 Threshold Planning Quantity (TPQ)

Not subject to reporting requirements of the United States SARA Section 302.

## 1,2,3,4,7,8-HEXACHLORODIBENZOFURAN UNLABELED (70648-26-9)

Subject to reporting requirements of United States SARA Section 313

#### 1,2,3,7,8,9-HEXACHLORODIBENZOFURAN UNLABELED (72918-21-9)

Subject to reporting requirements of United States SARA Section 313

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

Subject to reporting requirements of United States SARA Section 313

#### 1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN UNLABELED (55673-89-7)

Subject to reporting requirements of United States SARA Section 313

## 1,3,6,8-TETRACHLORODIBENZO-P-DIOXIN UNLABELED (33423-92-6)

SARA Section 302 Threshold Planning Quantity (TPQ)

Not subject to reporting requirements of the United States SARA Section 302.

#### 1,3,6,8-TETRACHLORODIBENZOFURAN UNLABELED (71998-72-6)

SARA Section 302 Threshold Planning Quantity (TPQ)

Not subject to reporing requirements of the United States SARA Section 302.

#### 1,3,7,9-TETRACHLORODIBENZO-P-DIOXIN UNLABELED (62470-53-5)

SARA Section 302 Threshold Planning Quantity (TPQ)

Not subject to reporting requirements of the United States SARA Section 302.

## OCTACHLORODIBENZOFURAN UNLABELED (39001-02-0)

Subject to reporting requirements of United States SARA Section 313

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

Subject to reporting requirements of United States SARA Section 313

## 15.2. International regulations

#### CANADA

## DIOXIN/FURAN NATIVE MIX ALL (17) 2378 ISOMERS + 1368 TCDD/F + 1379 TCDD (UNLABELED) 1/2/5 UG/ML

Listed on the Canadian DSL (Domestic Substances List)

## Safety Data Sheet

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

#### **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)

## **TOLUENE UNLABELED (108-88-3)**

Listed on the Canadian DSL (Domestic Substances List)

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

Not listed on the Canadian DSL (Domestic Substances List)

#### 2,3,7,8-TETRACHLORODIBENZOFURAN UNLABELED (51207-31-9)

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

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

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

#### 1,2,3,7,8-PENTACHLORODIBENZOFURAN UNLABELED (57117-41-6)

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

## 2,3,4,7,8-PENTACHLORODIBENZOFURAN UNLABELED (57117-31-4)

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

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

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

## 1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN UNLABELED (19408-74-3)

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

## 1,2,3,6,7,8-HEXACHLORODIBENZOFURAN UNLABELED (57117-44-9)

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

## 2,3,4,6,7,8-HEXACHLORODIBENZOFURAN UNLABELED (60851-34-5)

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

#### 1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN UNLABELED (67562-39-4)

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

## 1,2,3,4,7,8-HEXACHLORODIBENZOFURAN UNLABELED (70648-26-9)

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

## Safety Data Sheet

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

#### 1,2,3,7,8,9-HEXACHLORODIBENZOFURAN UNLABELED (72918-21-9)

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

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

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

## 1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN UNLABELED (55673-89-7)

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

#### 1,3,6,8-TETRACHLORODIBENZO-P-DIOXIN UNLABELED (33423-92-6)

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

#### 1,3,6,8-TETRACHLORODIBENZOFURAN UNLABELED (71998-72-6)

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

## 1,3,7,9-TETRACHLORODIBENZO-P-DIOXIN UNLABELED (62470-53-5)

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

## OCTACHLORODIBENZOFURAN UNLABELED (39001-02-0)

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

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

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

## **EU-Regulations**

No additional information available

#### **National regulations**

## DIOXIN/FURAN NATIVE MIX ALL (17) 2378 ISOMERS + 1368 TCDD/F + 1379 TCDD (UNLABELED) 1/2/5 UG/ML

CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States.

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

Listed on INSQ (Mexican National Inventory of Chemical Substances)

#### 2,3,4,7,8-PENTACHLORODIBENZOFURAN UNLABELED (57117-31-4)

Listed on IARC (International Agency for Research on Cancer)

#### 1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN UNLABELED (67562-39-4)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

## Safety Data Sheet

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

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

Listed on INSQ (Mexican National Inventory of Chemical Substances)

## 1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN UNLABELED (55673-89-7)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

## OCTACHLORODIBENZOFURAN UNLABELED (39001-02-0)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

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

Listed on INSQ (Mexican National Inventory of Chemical Substances)

#### 15.3. US State regulations

## DIOXIN/FURAN NATIVE MIX ALL (17) 2378 ISOMERS + 1368 TCDD/F + 1379 TCDD (UNLABELED) 1/2/5 UG/ML

State or local regulations

U.S. - Pennsylvania - RTK (Right to Know) List

U.S. - New Jersey - Right to Know Hazardous Substance List

TOLUENE UNLABELED (108-88-3)					
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)
No	Yes	No	No	7000 μg/day	

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

2,3,7,8-TETRACHLORODIBENZOFURAN UNLABELED (51207-31-9)					
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	No	No	No		

1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN UNLABELED (40321-76-4)					
U.S California - Proposition 65 - Carcinogens List	Proposition 65 -	Proposition 65 -	U.S California - Proposition 65 - Reproductive Toxicity - Male		Maximum allowable dose level (MADL)
Yes	No	No	No		

## Safety Data Sheet

	LONODIDENZOI ORAN OI	NLABELED (57117-41	1-6)		
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)
Yes	No	No	No		
2,3,4,7,8-PENTACH	LORODIBENZOFURAN UI	NLABELED (57117-31	I-4)		
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		
1,2,3,4,7,8-HEXACH	ILORODIBENZO-P-DIOXIN	I UNLABELED (39227	7-28-6)		
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)
Yes	No	No	No		
1.2.3.7.8.9-HEXACH	ILORODIBENZO-P-DIOXIN	I UNLABELED (19408	3-74-3)		
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	No	No	No		
1 2 2 6 7 9 HEVACL	ILORODIBENZOFURAN U	NI ADELED (57117 A	4.0\		
U.S California -	U.S California -	U.S California -	U.S California -	No significant risk	Maximum allowable
Proposition 65 - Carcinogens List	Proposition 65 - Developmental Toxicity	Proposition 65 - Reproductive Toxicity - Female	Proposition 65 - Reproductive Toxicity - Male	level (NSRL)	dose level (MADL)
			·	<del></del>	_

2,3,4,6,7,8-HEXACHLORODIBENZOFURAN UNLABELED (60851-34-5)								
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					

## Safety Data Sheet

1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN UNLABELED (67562-39-4)								
U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	Proposition 65 -	U.S California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)			
Yes	No	No	No					

1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN UNLABELED (57652-85-7)								
U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	Proposition 65 -	U.S California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)			
Yes	No	No	No					

1,2,3,4,7,8-HEXACHLORODIBENZOFURAN UNLABELED (70648-26-9)									
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	No	No	No						

1,2,3,7,8,9-HEXACHLORODIBENZOFURAN UNLABELED (72918-21-9)								
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	No	No	No					

1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN UNLABELED (35822-46-9)									
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	No	No	No						

1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN UNLABELED (55673-89-7)									
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						

## Safety Data Sheet

1,3,6,8-TETRACHLORODIBENZO-P-DIOXIN UNLABELED (33423-92-6)								
U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	Proposition 65 -	Proposition 65 -	No significant risk level (NSRL)	Maximum allowable dose level (MADL)			
Yes	No	No	No					

1,3,6,8-TETRACHLORODIBENZOFURAN UNLABELED (71998-72-6)								
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)			
Yes	No	No	No					

1,3,7,9-TETRACHLORODIBENZO-P-DIOXIN UNLABELED (62470-53-5)									
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						

OCTACHLORODIBENZOFURAN UNLABELED (39001-02-0)								
U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	Proposition 65 -	U.S California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)			
Yes	No	No	No					

OCTACHLORODIBENZO-P-DIOXIN UNLABELED (3268-87-9)						
U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	U.S California - Proposition 65 - Reproductive Toxicity - Female	Proposition 65 -	No significant risk level (NSRL)	Maximum allowable dose level (MADL)	
Yes	No	No	No			

Component	State or local regulations
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
TOLUENE UNLABELED(108-88-3)	U.S New Jersey - Right to Know Hazardous Substance List; U.S Pennsylvania - RTK (Right to Know) List; U.S Massachusetts - Right To Know List
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN UNLABELED(1746-01-6)	U.S Pennsylvania - RTK (Right to Know) List; U.S New Jersey - Right to Know Hazardous Substance List

## Safety Data Sheet

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

Component	State or local regulations
1,3,6,8-TETRACHLORODIBENZO-P-DIOXIN UNLABELED (33423-92-6)	U.S Pennsylvania - RTK (Right to Know) List; U.S New Jersey - Right to Know Hazardous Substance List
1,3,6,8-TETRACHLORODIBENZOFURAN UNLABELED(71998-72-6)	U.S New Jersey - Right to Know Hazardous Substance List; U.S Pennsylvania - RTK (Right to Know) List
1,3,7,9-TETRACHLORODIBENZO-P-DIOXIN UNLABELED (62470-53-5)	U.S Pennsylvania - RTK (Right to Know) List; U.S New Jersey - Right to Know Hazardous Substance List

## **SECTION 16: Other information**

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

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 H-phrases		
H225	Highly flammable liquid and vapor	
H226	Flammable liquid and vapor	
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	
H335	May cause respiratory irritation	
H336	May cause drowsiness or dizziness	
H350	May cause cancer	
H361	Suspected of damaging fertility or the unborn child	
H373	May cause damage to organs through prolonged or repeated exposure	
H400	Very toxic to aquatic life	
H401	Toxic to aquatic life	
H410	Very toxic to aquatic life with long lasting effects	
H411	Toxic to aquatic life with long lasting effects	
H413	May cause long lasting harmful effects to aquatic life	

Safety Data Sheet (SDS), USA

Safety Data Sheet

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

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.