



LABELED CHLOROPHENOLIC DERIVATIVES MIX FOR METHOD 1653 REV A - VIAL 1

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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Version: 1.1

EM-4173-1

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

1.1. Product identifier

Product form : Mixtures
Product name : LABELED CHLOROPHENOLIC DERIVATIVES MIX FOR METHOD 1653 REV A - VIAL 1
Product code : EM-4173-1

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

1.2.1. Relevant identified uses

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. 2 | H225 |
| Acute Tox. 3 (Oral) | H301 |
| Acute Tox. 3 (Dermal) | H311 |
| Acute Tox. 3 (Inhalation) | H331 |
| Skin Irrit. 2 | H315 |
| Eye Irrit. 2A | H319 |
| STOT SE 1 | H370 |

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

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

F; R11

T; R23/24/25

T; R39/23/24/25

Xi; R36/38

Full text of R-phrases: see section 16

GHS-US classification

| | |
|---------------------------|------|
| Flam. Liq. 2 | H225 |
| Acute Tox. 3 (Oral) | H301 |
| Acute Tox. 3 (Dermal) | H311 |
| Acute Tox. 3 (Inhalation) | H331 |
| Skin Irrit. 2 | H315 |
| Eye Irrit. 2A | H319 |
| STOT SE 1 | H370 |

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

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2.2. Label elements

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

Hazard pictograms (CLP) :



GHS02

GHS08

GHS06

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H225 - Highly flammable liquid and vapor
H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H370 - Causes damage to organs (eyes, heart, kidneys, liver, central nervous system) (in contact with skin, if inhaled, if swallowed)

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 equipment
P260 - Do not breathe dust, fume, gas, mist, spray, vapors.
P264 - Wash Both hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS02

GHS08

GHS06

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H225 - Highly flammable liquid and vapor
H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H370 - Causes damage to organs (central nervous system, eyes, heart, liver, kidneys) (Inhalation, Dermal, oral)

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 equipment
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Do not breathe dust, fume, gas, mist, spray, vapors.
P261 - Avoid breathing dust, fume, gas, mist, spray, vapors.
P264 - Wash Both hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective clothing, protective gloves.
P301+P310 - If swallowed: Immediately call a poison center or doctor
P302+P352 - If on skin: Wash with plenty of water
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P311 - Call a poison center or doctor
P312 - Call a poison center or doctor if you feel unwell
P321 - Specific treatment (see Hazard pictograms (CLP) on this label)
P330 - Rinse mouth.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P361 - Take off immediately all contaminated clothing.

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P362 - Take off contaminated clothing and wash before reuse.
P363 - Wash contaminated clothing before reuse.
P370+P378 - In case of fire: Use personal protective equipment as required. to extinguish.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container to Comply with applicable regulations

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Name | Product identifier | % | Classification according to Directive 67/548/EEC |
|---|---|------------|---|
| 100% METHANOL UNLABELED | (CAS-No.) 67-56-1 (EC-No.) 200-659-6 (EC Index-No.) 603-001-00-X (REACH-no) 01-2119433307-44 | 99.7477932 | F; R11 T; R39/23/24/25 Xi; R36/38 |
| 2,4-DICHLOROPHENOL (13C6, 99%) | (CAS-No.) 1202864-83-2 (EC-No.) 204-429-6 (Unlabeled) (EC Index-No.) 604-011-00-7 (Unlabeled) | 0.032 | T+; R28 T; R24 C; R35 Xi; R41 N; R51/53 |
| 4-CHLOROGUAIACOL (RING-13C6, 99%) | (CAS-No.) 16766-30-6 (Unlabeled) | 0.032 | Xi; R36/37/38 |
| 4,5-DICHLOROCATECHOL (13C6, 99%) | (CAS-No.) 3428-24-8 (Unlabeled) (EC-No.) 222-331-1 (Unlabeled) | 0.032 | Xi; R36/37/38 N; R50 |
| 4,5,6-TRICHLOROGUAIACOL (RING-13C6, 99%) | (CAS-No.) 2668-24-8 (Unlabeled) | 0.032 | Xn; R22 Xi; R36/37/38 |
| PENTACHLOROPHENOL (13C6, 99%) | (CAS-No.) 85380-74-1 (EC-No.) 201-778-6 (Unlabeled) (EC Index-No.) 604-002-00-8 (Unlabeled) | 0.032 | Xn; R22 R43 |
| 3,4,5,6-TETRACHLOROGUAIACOL (13C6, 99%) | (CAS-No.) 2539-17-5 (Unlabeled) | 0.032 | Xn; R22 Xi; R36/37/38 |
| 3,4,5,6-TETRACHLOROCATECHOL MONOHYDRATE (13C6, 99%) | (CAS-No.) 1198-55-6 (Unlabeled) | 0.032 | Xn; R22 Xi; R41 |
| 3,4,5-TRICHLOROPHENOL UNLABELED | (CAS-No.) 609-19-8 (EC-No.) 210-183-0 | 0.032 | Xn; R20/21/22 Xi; R37/38 Xi; R41 N; R50/53 |

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|-----------------------------------|---|------------|--|
| 100% METHANOL UNLABELED | (CAS-No.) 67-56-1 (EC-No.) 200-659-6 (EC Index-No.) 603-001-00-X (REACH-no) 01-2119433307-44 | 99.7477932 | Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapour), H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 1, H370 |
| 2,4-DICHLOROPHENOL (13C6, 99%) | (CAS-No.) 1202864-83-2 (EC-No.) 204-429-6 (Unlabeled) (EC Index-No.) 604-011-00-7 (Unlabeled) | 0.032 | Acute Tox. 2 (Oral), H300 Acute Tox. 3 (Dermal), H311 Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Chronic 2, H411 |
| 4-CHLOROGUAIACOL (RING-13C6, 99%) | (CAS-No.) 16766-30-6 (Unlabeled) | 0.032 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 |
| 4,5-DICHLOROCATECHOL (13C6, 99%) | (CAS-No.) 3428-24-8 (Unlabeled) (EC-No.) 222-331-1 (Unlabeled) | 0.032 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |

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| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|-------|--|
| 4,5,6-TRICHLOROGUAIACOL (RING-13C6, 99%) | (CAS-No.) 2668-24-8 (Unlabeled) | 0.032 | Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 |
| PENTACHLOROPHENOL (13C6, 99%) | (CAS-No.) 85380-74-1 (EC-No.) 201-778-6 (Unlabeled) (EC Index-No.) 604-002-00-8 (Unlabeled) | 0.032 | Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 2 (Inhalation), H330 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 3,4,5,6-TETRACHLOROGUAIACOL (13C6, 99%) | (CAS-No.) 2539-17-5 (Unlabeled) | 0.032 | Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 |
| 3,4,5,6-TETRACHLOROCATECHOL MONOHYDRATE (13C6, 99%) | (CAS-No.) 1198-55-6 (Unlabeled) | 0.032 | Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 |
| 3,4,5-TRICHLOROPHENOL UNLABELED | (CAS-No.) 609-19-8 (EC-No.) 210-183-0 | 0.032 | Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |

| Name | Product identifier | % | GHS-US classification |
|-------------------------|--------------------|------------|---|
| 100% METHANOL UNLABELED | (CAS-No.) 67-56-1 | 99.7477932 | Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapour), H331 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 1, H370 |

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing.
First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes.

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

Symptoms/effects after skin contact : Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin. Causes skin irritation.
Symptoms/effects after ingestion : Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

No additional information available

5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapor.
Explosion hazard : May form flammable/explosive vapor-air mixture.

5.3. Advice for firefighters

No additional information available

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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

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

No additional information available

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 vapors are flammable.

7.2. Conditions for safe storage, including any incompatibilities

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

| 2,4-DICHLOROPHENOL (13C6, 99%) (1202864-83-2) | | |
|---|---------------------------------------|---|
| USA OSHA | Remark (OSHA) | Component: 2,4-Dichlorophenol CAS-No.: 120-83-2 Value: TWA Control parameters: 1.00000 ppm Remarks: Kin. Absorbed rapidly through the skin in molten or heated liquid form in amounts that have caused rapid death in humans. Basis: USA. Workplace Environmental Exposure Levels (WEEL) |
| PENTACHLOROPHENOL (13C6, 99%) (85380-74-1) | | |
| Italy - Portugal - USA ACGIH | ACGIH TWA (mg/m ³) | 0.5 mg/m ³ Central Nervous System impairment. Upper Respiratory Tract & Eye irritation. |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 0.5 ppm Potential for dermal absorption |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 0.5 mg/m ³ Skin designation |
| 100% METHANOL UNLABELED (67-56-1) | | |
| Italy - Portugal - USA ACGIH | ACGIH TWA (ppm) | 200.00000000 ppm Basis: USA. ACGIH Threshold Limit Values (TLV) |
| Italy - Portugal - USA ACGIH | ACGIH STEL (ppm) | 250 ppm Basis: USA. ACGIH Threshold Limit Values (TLV) |
| Italy - Portugal - USA ACGIH | Remark (ACGIH) | Headache. Nausea. Dizziness. Eye damage. Substances for which there is a Biological Exposure Index or Indices (see BEI section). Danger of cutaneous absorption. |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 260 mg/m ³ Basis: NIOSH Recommended Exposure Limits |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 200 ppm Basis: NIOSH Recommended Exposure Limits |
| USA NIOSH | NIOSH REL (STEL) (mg/m ³) | 325 mg/m ³ Basis: NIOSH Recommended Exposure Limits |
| USA NIOSH | NIOSH REL (STEL) (ppm) | 250 ppm Basis: NIOSH Recommended Exposure Limits |
| USA NIOSH | Remark (NIOSH) | Potential for dermal absorption. |

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| 100% METHANOL UNLABELED (67-56-1) | | |
|-----------------------------------|--------------------------------------|--|
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 260 mg/m ³ Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - 1910.1000. California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| USA OSHA | OSHA PEL (TWA) (ppm) | 200 ppm Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - 1910.1000. California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| USA OSHA | OSHA PEL (STEL) (mg/m ³) | 325 mg/m ³ Basis: USA. OSHA - Table Z-1 Limits for Air Contaminants - 1910.1000. California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| USA OSHA | OSHA PEL (STEL) (ppm) | 250 ppm Basis: USA. OSHA - Table Z-1 Limits for Air Contaminants - 1910.1000. California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| USA OSHA | OSHA PEL (Ceiling) (ppm) | 1000 ppm California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| USA OSHA | Remark (OSHA) | The value in mg/m ³ is approximate. Skin notation. |

8.2. Exposure controls

| | |
|--------------------------|--|
| Hand protection | : protective gloves. |
| Skin and body protection | : Wear suitable protective clothing. |
| Respiratory protection | : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|-------------------------------------|
| Physical state | : Liquid |
| Color | : No data available |
| Odor | : No data available |
| Odor threshold | : No data available |
| pH | : No data available |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Melting point | : No data available |
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : Highly flammable liquid and vapor |
| Vapor pressure | : No data available |
| Relative vapor density at 20 °C | : No data available |
| Relative density | : No data available |
| Solubility | : No data available |
| Log Pow | : No data available |
| Log Kow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |
| Explosion limits | : No data available |

9.2. Other information

No additional information available

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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

Open flame. Direct sunlight.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Toxic if swallowed. Dermal: Toxic in contact with skin. Inhalation: Toxic if inhaled.

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| | |
|----------------------|---------------------------|
| ATE CLP (oral) | 100.000 mg/kg body weight |
| ATE CLP (dermal) | 300.000 mg/kg body weight |
| ATE CLP (gases) | 700.000 ppmV/4h |
| ATE CLP (vapors) | 3.000 mg/l/4h |
| ATE CLP (dust, mist) | 0.500 mg/l/4h |

2,4-DICHLOROPHENOL (13C6, 99%) (1202864-83-2)

| | |
|------------------|--|
| LD50 oral rat | 47 mg/kg Remarks: Behavioral: Food intake (animal). Lungs, Thorax, or Respiration: Dyspnea. Gastrointestinal: Other changes. |
| LD50 dermal | 790 mg/kg Mammal |
| ATE CLP (oral) | 47.000 mg/kg body weight |
| ATE CLP (dermal) | 300.000 mg/kg body weight |

4,5,6-TRICHLOROGUAIACOL (RING-13C6, 99%) (2668-24-8 (Unlabeled))

| | |
|----------------|---------------------------|
| LD50 oral rat | 2980 mg/kg |
| ATE CLP (oral) | 500.000 mg/kg body weight |

PENTACHLOROPHENOL (13C6, 99%) (85380-74-1)

| | |
|----------------------------|---|
| LD50 oral rat | 27 mg/kg Remarks: Vascular:BP elevation not characterized in autonomic section. Endocrine:Hyperglycemia. Nutritional and Gross Metabolic:Changes in:Body temperature increase |
| LD50 dermal rat | 96 mg/kg Remarks: Behavioral:Excitement. Behavioral:Muscle contraction or spasticity. Lungs, Thorax, or Respiration:Dyspnea. |
| LC50 inhalation rat (mg/l) | Remarks: Behavioral:Excitement. Behavioral:Muscle contraction or spasticity. Lungs, Thorax, or Respiration:Dyspnea. |
| ATE CLP (oral) | 27.000 mg/kg body weight |
| ATE CLP (dermal) | 300.000 mg/kg body weight |
| ATE CLP (gases) | 100.000 ppmV/4h |
| ATE CLP (vapors) | 0.500 mg/l/4h |
| ATE CLP (dust, mist) | 0.050 mg/l/4h |

3,4,5,6-TETRACHLOROGUAIACOL (13C6, 99%) (2539-17-5 (Unlabeled))

| | |
|----------------|----------------------------|
| LD50 oral rat | 1690 - 4004 mg/kg |
| ATE CLP (oral) | 1690.000 mg/kg body weight |

3,4,5,6-TETRACHLOROCATECHOL MONOHYDRATE (13C6, 99%) (1198-55-6 (Unlabeled))

| | |
|----------------|---------------------------|
| ATE CLP (oral) | 500.000 mg/kg body weight |
|----------------|---------------------------|

3,4,5-TRICHLOROPHENOL UNLABELED (609-19-8)

| | |
|------------------|--------------------------------------|
| LD50 oral rat | 372 mg/kg LD50 Intraperitoneal - rat |
| ATE CLP (oral) | 372.000 mg/kg body weight |
| ATE CLP (dermal) | 1100.000 mg/kg body weight |
| ATE CLP (gases) | 4500.000 ppmV/4h |
| ATE CLP (vapors) | 11.000 mg/l/4h |

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| 3,4,5-TRICHLOROPHENOL UNLABELED (609-19-8) | |
|---|--|
| ATE CLP (dust, mist) | 1.500 mg/l/4h |
| 100% METHANOL UNLABELED (67-56-1) | |
| LD50 oral rat | 1187 - 2769 mg/kg |
| LD50 dermal rabbit | 17100 mg/kg |
| LC50 inhalation rat (mg/l) | 128.2 mg/l/4h ; 87.6 mg/l - 6 h |
| ATE CLP (oral) | 100.000 mg/kg body weight |
| ATE CLP (dermal) | 300.000 mg/kg body weight |
| ATE CLP (vapors) | 3.000 mg/l/4h |
| ATE CLP (dust, mist) | 128.200 mg/l/4h |
| LDLO, oral, human | 143 mg/kg Remarks: Lungs, Thorax, or Respiration: Dyspnea. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |

| | |
|---|---|
| Skin corrosion/irritation | : Causes skin irritation. |
| Serious eye damage/irritation | : Causes serious eye irritation. |
| Respiratory or skin sensitization | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity – single exposure | : Causes damage to organs (eyes, heart, kidneys, liver, central nervous system) (in contact with skin, if inhaled, if swallowed). |
| Specific target organ toxicity – repeated exposure | : Not classified |
| Aspiration hazard | : Not classified |
| Potential Adverse human health effects and symptoms | : Toxic if swallowed. Toxic in contact with skin. |
| Symptoms/effects after skin contact | : Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin. Causes skin irritation. |
| Symptoms/effects after ingestion | : Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard. |

SECTION 12: Ecological information

12.1. Toxicity

| 2,4-DICHLOROPHENOL (13C6, 99%) (1202864-83-2) | |
|--|--|
| LC50 fish 1 | 1.6 - 2.6 mg/l <i>Lepomis macrochirus</i> (Bluegill) - 96 h |
| LC50 other aquatic organisms 1 | 9.2 mg/l Growth inhibition EC50 - <i>Chlorella vulgaris</i> (Fresh water algae) - 96 h |
| EC50 Daphnia 1 | 2.7 - 3.9 mg/l <i>Daphnia magna</i> (Water flea) - 24 h |
| LC50 fish 2 | 2.2 - 3.1 mg/l <i>Oncorhynchus mykiss</i> (rainbow trout) - 96 h |
| EC50 Daphnia 2 | 9.2 mg/l <i>Chlorella vulgaris</i> (Fresh water algae) - 96 h |
| 4,5-DICHLOROCATECHOL (13C6, 99%) (3428-24-8 (Unlabeled)) | |
| LC50 fish 1 | 0.89 mg/l <i>Pimephales promelas</i> (Fathead minnow) - 96 h |
| EC50 Daphnia 1 | 6.64 mg/l <i>Daphnia magna</i> (Water flea) - 24 h |
| ErC50 (algae) | 0.45 mg/l Growth inhibition <i>Pseudokirchneriella subcapitata</i> - 96 h |
| PENTACHLOROPHENOL (13C6, 99%) (85380-74-1) | |
| LC50 fish 1 | 0.16 - 0.5 mg/l <i>Cyprinodon variegatus</i> (sheepshead minnow) - 96 h |
| LC50 other aquatic organisms 1 | 0.16 - 0.38 mg/l <i>Carassius auratus</i> (goldfish) - 96 h |
| EC50 Daphnia 1 | 0.3 - 1.3 mg/l <i>Daphnia magna</i> (Water flea) - 48 h |
| EC50 other aquatic organisms 1 | 10.3 mg/l <i>Chlorella vulgaris</i> (Fresh water algae) - 96 h |
| LC50 other aquatic organisms 2 | 0.075 mg/l <i>Oncorhynchus mykiss</i> (rainbow trout) - 96 h |
| EC50 Daphnia 2 | 0.08 mg/l <i>Scenedesmus quadricauda</i> (Green algae) - 96 h |
| LOEC (acute) | 0.1 mg/l other fish - 24 h |
| NOEC (chronic) | 0.01 mg/l other fish - 24 h |
| 3,4,5,6-TETRACHLOROCATECHOL MONOHYDRATE (13C6, 99%) (1198-55-6 (Unlabeled)) | |
| LC50 fish 1 | 1.27 mg/l <i>Pimephales promelas</i> (fathead minnow) - 96 h |
| EC50 Daphnia 1 | 2.23 mg/l <i>Daphnia magna</i> (Water flea) - 24 h |
| ErC50 (algae) | 0.08 mg/l <i>Pseudokirchneriella subcapitata</i> - 96 h |

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| 3,4,5-TRICHLOROPHENOL UNLABELED (609-19-8) | |
|---|--|
| EC50 other aquatic organisms 1 | 0.68 mg/l Daphnia magna (Water flea) - 48h |
| 100% METHANOL UNLABELED (67-56-1) | |
| LC50 fish 1 | 15400 mg/l mortality LC50 - Lepomis macrochirus (Bluegill) - 96 h |
| EC50 Daphnia 1 | > 10000 mg/l Daphnia magna (Water flea) - 48 h |
| EC50 Daphnia 2 | 22000 mg/l Growth inhibition EC50 - Scenedesmus capricornutum (fresh water algae) - 96 h |
| NOEC (acute) | 7900 mg/l Oryzias latipes - 200 h |

12.2. Persistence and degradability

| 2,4-DICHLOROPHENOL (13C6, 99%) (1202864-83-2) | |
|--|--|
| Persistence and degradability | No data available. |
| 4-CHLOROGUAIACOL (RING-13C6, 99%) (16766-30-6 (Unlabeled)) | |
| Persistence and degradability | Not available. |
| 4,5-DICHLOROCATECHOL (13C6, 99%) (3428-24-8 (Unlabeled)) | |
| Persistence and degradability | Not available. |
| PENTACHLOROPHENOL (13C6, 99%) (85380-74-1) | |
| Persistence and degradability | Not available. |
| Biodegradation | 99 % Biodegradable |
| 3,4,5,6-TETRACHLOROGUAIACOL (13C6, 99%) (2539-17-5 (Unlabeled)) | |
| Persistence and degradability | Not available. |
| 3,4,5,6-TETRACHLOROCATECHOL MONOHYDRATE (13C6, 99%) (1198-55-6 (Unlabeled)) | |
| Persistence and degradability | Not available. |
| 100% METHANOL UNLABELED (67-56-1) | |
| Biochemical oxygen demand (BOD) | 600 - 1200 mg/g |
| Chemical oxygen demand (COD) | 1420 mg/g |
| ThOD | 1500 mg/g |
| Biodegradation | 72 % - rapidly biodegradable aerobic - Exposure time 5 d |

12.3. Bioaccumulative potential

| 2,4-DICHLOROPHENOL (13C6, 99%) (1202864-83-2) | |
|--|---|
| BCF fish 1 | 8 mg/l Carassius auratus (goldfish) - 24 h |
| Bioconcentration factor (BCF REACH) | 34 |
| Log Pow | 3.065 |
| 4-CHLOROGUAIACOL (RING-13C6, 99%) (16766-30-6 (Unlabeled)) | |
| Bioaccumulative potential | Not available. |
| 4,5-DICHLOROCATECHOL (13C6, 99%) (3428-24-8 (Unlabeled)) | |
| Bioaccumulative potential | Not available. |
| PENTACHLOROPHENOL (13C6, 99%) (85380-74-1) | |
| BCF fish 1 | 0.0912 mg/l Oncorhynchus mykiss (rainbow trout) - 144 h |
| Bioconcentration factor (BCF REACH) | 482 |
| Log Pow | 5.12 |
| 3,4,5,6-TETRACHLOROGUAIACOL (13C6, 99%) (2539-17-5 (Unlabeled)) | |
| Bioaccumulative potential | Not available. |
| 3,4,5,6-TETRACHLOROCATECHOL MONOHYDRATE (13C6, 99%) (1198-55-6 (Unlabeled)) | |
| Bioaccumulative potential | Not available. |
| 3,4,5-TRICHLOROPHENOL UNLABELED (609-19-8) | |
| Log Pow | 3.774 |
| 100% METHANOL UNLABELED (67-56-1) | |
| BCF fish 1 | 5 mg/l Cyprinus carpio (Carp) - 72 d at 20 °C |
| Bioconcentration factor (BCF REACH) | 1 |
| Log Pow | -0.77 |

12.4. Mobility in soil

| 2,4-DICHLOROPHENOL (13C6, 99%) (1202864-83-2) | |
|--|--------------------|
| Ecology - soil | No data available. |

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| | |
|--|-----------------------------|
| 4-CHLOROGUAIACOL (RING-13C6, 99%) (16766-30-6 (Unlabeled)) | |
| Ecology - soil | Not available. |
| 4,5-DICHLOROCATECHOL (13C6, 99%) (3428-24-8 (Unlabeled)) | |
| Ecology - soil | Not available. |
| PENTACHLOROPHENOL (13C6, 99%) (85380-74-1) | |
| Ecology - soil | Not available. |
| 3,4,5,6-TETRACHLOROGUAIACOL (13C6, 99%) (2539-17-5 (Unlabeled)) | |
| Ecology - soil | Not available. |
| 3,4,5,6-TETRACHLOROCATECHOL MONOHYDRATE (13C6, 99%) (1198-55-6 (Unlabeled)) | |
| Ecology - soil | Not available. |
| 100% METHANOL UNLABELED (67-56-1) | |
| Ecology - soil | Not degradable in the soil. |

12.5. Results of PBT and vPvB assessment

| |
|--|
| 100% METHANOL UNLABELED (67-56-1) |
| PBT: not relevant – no registration required |

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|--|---|
| Product/Packaging disposal recommendations | : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. |
| Additional information | : Handle empty containers with care because residual vapors are flammable. |
| Ecology - waste materials | : Hazardous waste due to toxicity. |

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

| | |
|-------------|--------|
| UN-No.(DOT) | : 1230 |
| DOT NA no. | UN1230 |

14.2. UN proper shipping name

| | |
|----------------------------|---|
| Proper Shipping Name (DOT) | : Methanol |
| Class (DOT) | : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120 |
| Hazard labels (DOT) | : 3 - Flammable liquid |



| | |
|---|---|
| DOT Symbols | : D - Proper shipping name for domestic use only, or to and from Canada |
| Packing group (DOT) | : II - Medium Danger |
| DOT Special Provisions (49 CFR 172.102) | : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31H21). 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. T7 - 4 178.274(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 |

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14.3. Additional information

Other information : No supplementary information available.

Overland transport

Packing group (ADR) : II
Class (ADR) : 3 - Flammable liquid
Hazard identification number (Kemler No.) : 336
Classification code (ADR) : FT1
Hazard labels (ADR) : 3 - Flammable liquids
6.1 - Toxic substances



Orange plates : 

Tunnel restriction code (ADR) : D/E
Limited quantities (ADR) : 1l
EAC : •2WE
APP : A(fl)
Excepted quantities (ADR) : E2

Transport by sea

DOT Vessel Stowage Location : 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.

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"
MFAG-No : 131

Air transport

DOT Quantity Limitations Passenger aircraft/rail : 1 L
(49 CFR 173.27)
DOT Quantity Limitations Cargo aircraft only (49 : 60 L
CFR 175.75)
Civil Aeronautics Law : Flammable liquids

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

| 100% METHANOL UNLABELED (67-56-1) | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| CERCLA RQ | 5000 lb |
| 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 Delayed (chronic) health hazard |
| SARA Section 313 - Emission Reporting | Subject to reporting requirements of United States SARA Section 313 |

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15.2. International regulations

CANADA

100% METHANOL UNLABELED (67-56-1)

Listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

15.3. US State regulations

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| | |
|---|----|
| U.S. - California - Proposition 65 - Carcinogens List | No |
| U.S. - California - Proposition 65 - Developmental Toxicity | No |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Female | No |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No |

100% METHANOL UNLABELED (67-56-1)

| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significant risk level (NSRL) |
|---|---|---|---|----------------------------------|
| No | Yes | No | No | |

100% METHANOL UNLABELED (67-56-1)

State or local regulations

U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
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
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances

SECTION 16: Other information

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

| | |
|----------------------------------|--|
| Acute Tox. 2 (Inhalation) | Acute toxicity (inhalation) Category 2 |
| Acute Tox. 2 (Oral) | Acute toxicity (oral) Category 2 |
| Acute Tox. 3 (Dermal) | Acute toxicity (dermal) Category 3 |
| Acute Tox. 3 (Inhalation) | Acute toxicity (inhalation) Category 3 |
| Acute Tox. 3 (Inhalation:vapour) | Acute toxicity (inhalation:vapour) Category 3 |
| Acute Tox. 3 (Oral) | Acute toxicity (oral) Category 3 |
| Acute Tox. 4 (Dermal) | Acute toxicity (dermal) Category 4 |
| Acute Tox. 4 (Inhalation) | Acute toxicity (inhalation) Category 4 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral) Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment - Acute Hazard Category 1 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment - Chronic Hazard Category 1 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment - Chronic Hazard Category 2 |
| Carc. 2 | Carcinogenicity Category 2 |
| Eye Dam. 1 | Serious eye damage/eye irritation Category 1 |
| Eye Irrit. 2 | Serious eye damage/eye irritation Category 2 |
| Flam. Liq. 2 | Flammable liquids Category 2 |
| Skin Corr. 1A | Skin corrosion/irritation Category 1A |
| Skin Irrit. 2 | Skin corrosion/irritation Category 2 |
| STOT SE 1 | Specific target organ toxicity (single exposure) Category 1 |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| H225 | Highly flammable liquid and vapor |

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| | |
|--------------|--|
| H300 | Fatal if swallowed |
| H301 | Toxic if swallowed |
| H302 | Harmful if swallowed |
| H311 | Toxic in contact with skin |
| H312 | Harmful in contact with skin |
| H314 | Causes severe skin burns and eye damage |
| H315 | Causes skin irritation |
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |
| H330 | Fatal if inhaled |
| H331 | Toxic if inhaled |
| H332 | Harmful if inhaled |
| H335 | May cause respiratory irritation |
| H351 | Suspected of causing cancer |
| H370 | Causes damage to organs |
| H400 | Very toxic to aquatic life |
| H410 | Very toxic to aquatic life with long lasting effects |
| H411 | Toxic to aquatic life with long lasting effects |
| R11 | Highly flammable |
| R20/21/22 | Harmful by inhalation, in contact with skin and if swallowed |
| R22 | Harmful if swallowed |
| R23/24/25 | Toxic by inhalation, in contact with skin and if swallowed |
| R24 | Toxic in contact with skin |
| R28 | Very toxic if swallowed |
| R35 | Causes severe burns |
| R36/37/38 | Irritating to eyes, respiratory system and skin |
| R36/38 | Irritating to eyes and skin |
| R37/38 | Irritating to respiratory system and skin |
| R39/23/24/25 | Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed |
| R41 | Risk of serious damage to eyes |
| R43 | May cause sensitization by skin contact |
| R50 | Very toxic to aquatic organisms |
| R50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment |
| R51/53 | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment |
| C | Corrosive |
| F | Highly flammable |
| N | Dangerous for the environment |
| T | Toxic |
| T+ | Very toxic |
| Xi | Irritant |
| Xn | Harmful |

Hazard Rating

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