SAFETY DATA SHEET
Dioxin Analyzer Standard, Part Number G3440-85039

Section 1. Identification

1.1 Product identifier

Product name : Dioxin Analyzer Standard, Part Number G3440-85039
Part no. (chemical kit) : G3440-85039
Part no. : Dioxin/Furan/DL-PCB Check Standard G3440-85039-1
               DL/NDL-PCB Check Standard G3440-85039-2
Validation date : 9/25/2018

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

Material uses : Reagents and Standards for Analytical Chemistry Laboratory Use
Dioxin/Furan/DL-PCB Check Standard 1 ml
DL/NDL-PCB Check Standard 1 ml

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer : Agilent Technologies, Inc.
5301 Stevens Creek Blvd
Santa Clara, CA 95051, USA
800-227-9770

1.4 Emergency telephone number

In case of emergency : CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture

OSHA/HCS status : Dioxin/Furan/DL-PCB Check Standard
DL/NDL-PCB Check Standard
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

Dioxin/Furan/DL-PCB Check Standard
H226   FLAMMABLE LIQUIDS - Category 3
H332   ACUTE TOXICITY (inhalation) - Category 4
H315   SKIN IRRITATION - Category 2
H319   EYE IRRITATION - Category 2A
H335   SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
H336   SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
H373   SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS)) - Category 2
H304   ASPIRATION HAZARD - Category 1
H400   AQUATIC HAZARD (ACUTE) - Category 1
H410   AQUATIC HAZARD (LONG-TERM) - Category 1

DL/NDL-PCB Check Standard
H225   FLAMMABLE LIQUIDS - Category 2
H315   SKIN IRRITATION - Category 2
H319   EYE IRRITATION - Category 2A
H335   SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

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Section 2. Hazards identification

Signal word
- Dioxin/Furan/DL-PCB Check Standard: Danger
- DL/NDL-PCB Check Standard: Danger

Hazard statements
- Dioxin/Furan/DL-PCB Check Standard
  - H226 - Flammable liquid and vapor.
  - H332 - Harmful if inhaled.
  - H319 - Causes serious eye irritation.
  - H315 - Causes skin irritation.
  - H304 - May be fatal if swallowed and enters airways.
  - H335 - May cause respiratory irritation.
  - H336 - May cause drowsiness or dizziness.
  - H373 - May cause damage to organs through prolonged or repeated exposure. (central nervous system (CNS))
  - H410 - Very toxic to aquatic life with long lasting effects.
- DL/NDL-PCB Check Standard
  - H225 - Highly flammable liquid and vapor.
  - H319 - Causes serious eye irritation.
  - H315 - Causes skin irritation.
  - H304 - May be fatal if swallowed and enters airways.
  - H335 - May cause respiratory irritation.
  - H336 - May cause drowsiness or dizziness.
  - H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention
- Dioxin/Furan/DL-PCB Check Standard
  - P280 - Wear protective gloves. Wear eye or face protection.
  - P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  - P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
  - P242 - Use only non-sparking tools.
  - P243 - Take precautionary measures against static discharge.
  - P233 - Keep container tightly closed.
  - P271 - Use only outdoors or in a well-ventilated space.

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Section 2. Hazards identification

Dioxin/Furan/DL-PCB Check Standard

Response: Dioxin/Furan/DL-PCB Check Standard

- P273 - Avoid release to the environment.
- P260 - Do not breathe vapor.
- P264 - Wash hands thoroughly after handling.
- P280 - Wear protective gloves. Wear eye or face protection.
- P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
- P242 - Use only non-sparking tools.
- P243 - Take precautionary measures against static discharge.
- P233 - Keep container tightly closed.
- P271 - Use only outdoors or in a well-ventilated area.
- P273 - Avoid release to the environment.
- P261 - Avoid breathing vapor.
- P264 - Wash hands thoroughly after handling.

- P314 - Get medical attention if you feel unwell.
- P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
- P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
- P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- P302 + P352 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.
- P332 + P313 - If skin irritation occurs: Get medical attention.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313 - If eye irritation persists: Get medical attention.
- P391 - Collect spillage.

DL/NDL-PCB Check Standard

- P391 - Collect spillage.
- P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
- P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
- P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- P302 + P352 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.
- P332 + P313 - If skin irritation occurs: Get medical attention.

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Section 2. Hazards identification

Storage

Dioxin/Furan/DL-PCB Check Standard
P405 - Store locked up.
P403 - Store in a well-ventilated place.
P235 - Keep cool.

DL/NDL-PCB Check Standard
P405 - Store locked up.
P403 - Store in a well-ventilated place.
P235 - Keep cool.

Disposal

Dioxin/Furan/DL-PCB Check Standard
P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

DL/NDL-PCB Check Standard
P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

Dioxin/Furan/DL-PCB Check Standard
None known.

DL/NDL-PCB Check Standard
None known.

2.3 Other hazards

Hazards not otherwise classified

Dioxin/Furan/DL-PCB Check Standard
None known.

DL/NDL-PCB Check Standard
None known.

Section 3. Composition/information on ingredients

Substance/mixture

Dioxin/Furan/DL-PCB Check Standard
Mixture

DL/NDL-PCB Check Standard
Mixture

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dioxin/Furan/DL-PCB Check Standard</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>nonane</td>
<td>≥90</td>
<td>111-84-2</td>
</tr>
<tr>
<td><strong>DL/NDL-PCB Check Standard</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,2,4-trimethylpentane</td>
<td>≥90</td>
<td>540-84-1</td>
</tr>
</tbody>
</table>

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

4.1 Description of necessary first aid measures
## Section 4. First aid measures

| Eye contact | : Dioxin/Furan/DL-PCB Check Standard | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. |
| DL/NDL-PCB Check Standard | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. |

| Inhalation | : Dioxin/Furan/DL-PCB Check Standard | Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. |
| DL/NDL-PCB Check Standard | Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. |

| Skin contact | : Dioxin/Furan/DL-PCB Check Standard | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| DL/NDL-PCB Check Standard | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse. |

| Ingestion | : Dioxin/Furan/DL-PCB Check Standard | Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration |
Section 4. First aid measures

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

**Eye contact**

- Dioxin/Furan/DL-PCB Check Standard
-DL/NDL-PCB Check Standard

Causes serious eye irritation.

**Inhalation**

- Dioxin/Furan/DL-PCB Check Standard
- DL/NDL-PCB Check Standard

Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

**Skin contact**

- Dioxin/Furan/DL-PCB Check Standard
- DL/NDL-PCB Check Standard

Causes skin irritation.

**Ingestion**

- Dioxin/Furan/DL-PCB Check Standard
- DL/NDL-PCB Check Standard

Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

**Over-exposure signs/symptoms**

**Eye contact**

- Dioxin/Furan/DL-PCB Check Standard
- DL/NDL-PCB Check Standard

Adverse symptoms may include the following:
- pain or irritation
- watering
- redness

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## Section 4. First aid measures

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Standard</th>
<th>Adverse symptoms may include the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inhalation</strong></td>
<td>Dioxin/Furan/LPCB Check Standard</td>
<td>respiratory tract irritation, coughing, nausea or vomiting, headache, dizziness/vertigo, unconsciousness</td>
</tr>
<tr>
<td></td>
<td>DL/NDL-PCB Check Standard</td>
<td>respiratory tract irritation, coughing, nausea or vomiting, headache, dizziness/vertigo, unconsciousness</td>
</tr>
<tr>
<td><strong>Skin contact</strong></td>
<td>Dioxin/Furan/LPCB Check Standard</td>
<td>irritation, redness</td>
</tr>
<tr>
<td></td>
<td>DL/NDL-PCB Check Standard</td>
<td>irritation, redness</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>Dioxin/Furan/LPCB Check Standard</td>
<td>nausea or vomiting</td>
</tr>
<tr>
<td></td>
<td>DL/NDL-PCB Check Standard</td>
<td>nausea or vomiting</td>
</tr>
</tbody>
</table>

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician**: Dioxin/Furan/LPCB Check Standard
- Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- DL/NDL-PCB Check Standard
- Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments**: Dioxin/Furan/LPCB Check Standard
- No specific treatment.
- DL/NDL-PCB Check Standard
- No specific treatment.

**Protection of first-aiders**: Dioxin/Furan/LPCB Check Standard
- No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
- DL/NDL-PCB Check Standard
- No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)
Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media:
- Dioxin/Furan/DL-PCB Check Standard
- DL/NDL-PCB Check Standard

Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing media:
- Dioxin/Furan/DL-PCB Check Standard
- DL/NDL-PCB Check Standard

Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical:
- Dioxin/Furan/DL-PCB Check Standard
- DL/NDL-PCB Check Standard

Decomposition products may include the following materials:
- carbon dioxide
- carbon monoxide

Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Decomposition products may include the following materials:
- carbon dioxide
- carbon monoxide

5.3 Advice for firefighters

Special protective actions for fire-fighters:
- Dioxin/Furan/DL-PCB Check Standard
- DL/NDL-PCB Check Standard

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
## Section 5. Fire-fighting measures

<table>
<thead>
<tr>
<th>Special protective equipment for fire-fighters</th>
<th>Dioxin/Furan/DL-PCB Check Standard</th>
<th>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL/NDL-PCB Check Standard</td>
<td></td>
<td>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</td>
</tr>
</tbody>
</table>

## Section 6. Accidental release measures

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

#### For non-emergency personnel
- Dioxin/Furan/DL-PCB Check Standard
  - No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist.
  - Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- DL/NDL-PCB Check Standard
  - No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist.
  - Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

#### For emergency responders
- Dioxin/Furan/DL-PCB Check Standard
  - If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- DL/NDL-PCB Check Standard
  - If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### 6.2 Environmental precautions
- Dioxin/Furan/DL-PCB Check Standard
  - Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.
- DL/NDL-PCB Check Standard
  - Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### 6.3 Methods and materials for containment and cleaning up

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Section 6. Accidental release measures

**Methods for cleaning up**

| Dioxin/Furan/DL-PCB Check Standard | Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| DL/NDL-PCB Check Standard | Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |

Section 7. Handling and storage

7.1 Precautions for safe handling

**Protective measures**

| Dioxin/Furan/DL-PCB Check Standard | Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do not swallow. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container. |
| DL/NDL-PCB Check Standard | Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container. |

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Section 7. Handling and storage

**Advice on general occupational hygiene**

**Dioxin/Furan/DL-PCB Check Standard**

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**DL/NDL-PCB Check Standard**

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**7.2 Conditions for safe storage, including any incompatibilities**

**Dioxin/Furan/DL-PCB Check Standard**

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

**DL/NDL-PCB Check Standard**

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

**7.3 Specific end use(s)**

**Recommendations**

**Dioxin/Furan/DL-PCB Check Standard**

Industrial applications, Professional applications.

**DL/NDL-PCB Check Standard**

Industrial applications, Professional applications.

**Industrial sector specific solutions**

**Dioxin/Furan/DL-PCB Check Standard**

Not applicable.

**DL/NDL-PCB Check Standard**

Not applicable.
Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dioxin/Furan/DL-PCB Check Standard</strong></td>
<td><strong>Exposure limits</strong></td>
</tr>
</tbody>
</table>
| nonane | ACGIH TLV (United States, 3/2017).  
TWA: 200 ppm 8 hours.  
TWA: 1050 mg/m³ 8 hours.  
**OSHA PEL 1989 (United States, 3/1989).**  
TWA: 200 ppm 8 hours.  
TWA: 1050 mg/m³ 8 hours.  
**NIOSH REL (United States, 10/2016).**  
TWA: 200 ppm 10 hours.  
TWA: 1050 mg/m³ 10 hours. |
| **DL/NL-PCB Check Standard** | **Exposure limits** |
| 2,2,4-trimethylpentane | ACGIH TLV (United States, 3/2017).  
TWA: 300 ppm 8 hours. |

### 8.2 Exposure controls

#### Appropriate engineering controls

- Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

#### Environmental exposure controls

- Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

#### Individual protection measures

##### Hygiene measures

- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

##### Eye/face protection

- Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

##### Skin protection

- Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

##### Hand protection

- Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

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### Section 8. Exposure controls/personal protection

**Other skin protection**: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection**: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

### Section 9. Physical and chemical properties

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

**Appearance**

<table>
<thead>
<tr>
<th>Property</th>
<th>Dioxin/Furan/DL-PCB Check Standard</th>
<th>DL/NDL-PCB Check Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>Not available</td>
</tr>
<tr>
<td>Odor</td>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>Not available</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>-53°C (-63.4°F)</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>151°C (303.8°F)</td>
</tr>
<tr>
<td>Flash point</td>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>Closed cup: 31°C (87.8°F)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Lower and upper explosive (flammable) limits</td>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>Lower: 0.87% Upper: 2.9%</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>5.5 kPa (41 mm Hg) [room temperature]</td>
</tr>
</tbody>
</table>
### Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Dioxin/Furan/DL-PCB Check Standard</th>
<th>Dioxin/Furan/DL-PCB Check Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative density</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in the following materials: cold water and hot water.</td>
<td>Insoluble in the following materials: cold water and hot water.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>205°C (401°F)</td>
<td>396°C (744.8°F)</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

### Section 10. Stability and reactivity

<table>
<thead>
<tr>
<th>10.1 Reactivity</th>
<th>No specific test data related to reactivity available for this product or its ingredients.</th>
<th>No specific test data related to reactivity available for this product or its ingredients.</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.2 Chemical stability</td>
<td>The product is stable.</td>
<td>The product is stable.</td>
</tr>
<tr>
<td>10.3 Possibility of hazardous reactions</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
<tr>
<td>10.4 Conditions to avoid</td>
<td>Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.</td>
<td>Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.</td>
</tr>
<tr>
<td>10.5 Incompatible materials</td>
<td>Reactive or incompatible with the following materials: oxidizing materials</td>
<td>Reactive or incompatible with the following materials: oxidizing materials</td>
</tr>
</tbody>
</table>
Section 10. Stability and reactivity

10.6 Hazardous decomposition products

Dioxin/Furan/DL-PCB Check Standard

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

DL/NDL-PCB Check Standard

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>17000 mg/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>3200 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat - Male, Female</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>DL/NDL-PCB Check Standard</td>
<td>LC50 Inhalation Vapor</td>
<td>Rat - Male, Female</td>
<td>&gt;33.52 mg/l</td>
<td>4 hours</td>
</tr>
<tr>
<td>2,2,4-trimethylpentane</td>
<td>LD50 Oral</td>
<td>Rat - Male, Female</td>
<td>&gt;5000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>Skin - Moderate irritant</td>
<td>Rat</td>
<td>-</td>
<td>96 hours 300 microliters</td>
<td>-</td>
</tr>
<tr>
<td>nonane</td>
<td>nonane</td>
<td>nonane</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation and Narcotic effects</td>
</tr>
<tr>
<td>nonane</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DL/NDL-PCB Check Standard</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract</td>
</tr>
<tr>
<td>2,2,4-trimethylpentane</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Section 11. Toxicological information

Specific target organ toxicity (repeated exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dioxin/Furan/DL-PCB Check Standard nonane</td>
<td>Category 2</td>
<td>Not determined</td>
<td>central nervous system (CNS)</td>
</tr>
</tbody>
</table>

Aspiration hazard

<table>
<thead>
<tr>
<th>Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dioxin/Furan/DL-PCB Check Standard nonane</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
<tr>
<td>DL/NDL-PCB Check Standard 2,2,4-trimethylpentane</td>
<td>ASPIRATION HAZARD - Category 1</td>
</tr>
</tbody>
</table>

Information on the likely routes of exposure

<table>
<thead>
<tr>
<th>Name</th>
<th>Routes of entry anticipated: Oral, Dermal, Inhalation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>Routes of entry anticipated: Oral, Dermal, Inhalation.</td>
</tr>
<tr>
<td>DL/NDL-PCB Check Standard</td>
<td>Routes of entry anticipated: Oral, Dermal, Inhalation.</td>
</tr>
</tbody>
</table>

Potential acute health effects

Eye contact

<table>
<thead>
<tr>
<th>Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>DL/NDL-PCB Check Standard</td>
<td>Causes serious eye irritation.</td>
</tr>
</tbody>
</table>

Inhalation

<table>
<thead>
<tr>
<th>Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.</td>
</tr>
<tr>
<td>DL/NDL-PCB Check Standard</td>
<td>Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.</td>
</tr>
</tbody>
</table>

Skin contact

<table>
<thead>
<tr>
<th>Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>DL/NDL-PCB Check Standard</td>
<td>Causes skin irritation.</td>
</tr>
</tbody>
</table>

Ingestion

<table>
<thead>
<tr>
<th>Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.</td>
</tr>
<tr>
<td>DL/NDL-PCB Check Standard</td>
<td>Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.</td>
</tr>
</tbody>
</table>

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

<table>
<thead>
<tr>
<th>Name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dioxin/Furan/DL-PCB Check Standard</td>
<td>Adverse symptoms may include the following: pain or irritation, watering, redness</td>
</tr>
<tr>
<td>DL/NDL-PCB Check Standard</td>
<td>Adverse symptoms may include the following: pain or irritation, watering, redness</td>
</tr>
</tbody>
</table>

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**Section 11. Toxicological information**

### Inhalation

**Dioxin/Furan/DL-PCB Check Standard**

Adverse symptoms may include the following:
- respiratory tract irritation
- coughing
- nausea or vomiting
- headache
- drowsiness/fatigue
- dizziness/vertigo
- unconsciousness

**DL/NDL-PCB Check Standard**

Adverse symptoms may include the following:
- respiratory tract irritation
- coughing
- nausea or vomiting
- headache
- drowsiness/fatigue
- dizziness/vertigo
- unconsciousness

### Skin contact

**Dioxin/Furan/DL-PCB Check Standard**

Adverse symptoms may include the following:
- irritation
- redness

**DL/NDL-PCB Check Standard**

Adverse symptoms may include the following:
- irritation
- redness

### Ingestion

**Dioxin/Furan/DL-PCB Check Standard**

Adverse symptoms may include the following:
- nausea or vomiting

**DL/NDL-PCB Check Standard**

Adverse symptoms may include the following:
- nausea or vomiting

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects**

Not available.

**Potential delayed effects**

Not available.

#### Long term exposure

**Potential immediate effects**

Not available.

**Potential delayed effects**

Not available.

### Potential chronic health effects

**General**

**Dioxin/Furan/DL-PCB Check Standard**

May cause damage to organs through prolonged or repeated exposure.

**DL/NDL-PCB Check Standard**

No known significant effects or critical hazards.

**Carcinogenicity**

**Dioxin/Furan/DL-PCB Check Standard**

No known significant effects or critical hazards.

**DL/NDL-PCB Check Standard**

No known significant effects or critical hazards.

**Mutagenicity**

**Dioxin/Furan/DL-PCB Check Standard**

No known significant effects or critical hazards.

**DL/NDL-PCB Check Standard**

No known significant effects or critical hazards.

**Teratogenicity**

**Dioxin/Furan/DL-PCB Check Standard**

No known significant effects or critical hazards.

**DL/NDL-PCB Check Standard**

No known significant effects or critical hazards.

**Developmental effects**

**Dioxin/Furan/DL-PCB Check Standard**

No known significant effects or critical hazards.

**DL/NDL-PCB Check Standard**

No known significant effects or critical hazards.

---

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### Section 11. Toxicological information

**Fertility effects**

- Dioxin/Furan/DL-PCB Check Standard
- DL/NDL-PCB Check Standard

No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dioxin/Furan/DL-PCB Check Standard Inhalation (vapors)</td>
<td>17 mg/l</td>
</tr>
</tbody>
</table>

**Other information**

- Dioxin/Furan/DL-PCB Check Standard
- DL/NDL-PCB Check Standard

Adverse symptoms may include the following: Repeated exposure may cause skin dryness or cracking.

### Section 12. Ecological information

**12.1 Toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL/NDL-PCB Check Standard 2,2,4-trimethylpentane</td>
<td>Acute LC50 0.11 mg/l Fresh water</td>
<td>Fish</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

**12.2 Persistence and degradability**

Not available.

**12.3 Bioaccumulative potential**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dioxin/Furan/DL-PCB Check Standard nonane</td>
<td>5.65</td>
<td>105</td>
<td>low</td>
</tr>
<tr>
<td>DL/NDL-PCB Check Standard 2,2,4-trimethylpentane</td>
<td>4.08</td>
<td>231</td>
<td>low</td>
</tr>
</tbody>
</table>

**12.4 Mobility in soil**

- Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

**12.5 Other adverse effects**

No known significant effects or critical hazards.

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Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional/local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

DOT / TDG / Mexico / IMDG / IATA

Additional information

Remarks: De minimis quantities

DOT Classification: Reportable quantity 2000 lbs / 908 kg. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

Special precautions for user: Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not available.

Section 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal regulations: TSCA 4(a) final test rules: nonane

TSCA 5(a)2 final significant new use rules: 1,1’-Biphenyl, 2,2’,4,4’,5,5’-hexachloro-
Section 15. Regulatory information

TSCA 6 final risk management: Biphenyl, 3,3',4,4',5,5'-hexachloro-; 1,1'-Biphenyl, 3,3', 4,4',5-pentachloro-; Biphenyl, 2,3,3',4,4'-pentachloro-; 1,1'-Biphenyl, 3,3',4,4'-tetrachloro-; Biphenyl, 3,3',4,5'-tetrachloro-; 1,1'-Biphenyl, 2,2',3,4,4'-pentachloro-; 2,2',3,4,4',5'-Hexachlorobiphenyl; 1,1'-Biphenyl, 2,2',4,4',5,5'-hexachloro-; 1,1'-Biphenyl, 2,2',4,5,5'-pentachloro-; 2,2',5,5'-Tetrachlorobiphenyl; 2,4,4'-trichlorobiphenyl; 1,1'-Biphenyl, 2,3,3',4,4', 4,4',5,5'-heptachloro-; 2,3,3',4,4',5'-hexachlorobiphenyl; 1,1'-Biphenyl, 2,3,3',4,4', 5-hexachloro-; 2,3',4,4',5,5'-hexachlorobiphenyl; 1,1'-Biphenyl, 2,3,4,4',5-pentachloro-; 1, 1'-Biphenyl, 2,3',4,4',5-pentachloro-; 2,3',4,4',5'-Pentachloro-1,1'-biphenyl

TSCA 8(a) PAIR: none

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

TSCA 12(b) one-time export: none

Clean Water Act (CWA) 307: Biphenyl, 3,3',4,4',5,5'-hexachloro-; 1,1'-Biphenyl, 3,3',4,4', 5-pentachloro-; Biphenyl, 2,3,3',4,4'-pentachloro-; 1,1'-Biphenyl, 3,3',4,4'-tetrachloro-; Biphenyl, 3,3',4,5'-tetrachloro-; 2,3,7,8-tetrachlorodibenzo[def]kk' dioxin; 1,1'-Biphenyl, 2,2',3,4,4',5,5'-heptachloro-; 2,2',3,4,4',5'-Hexachlorobiphenyl; 1,1'-Biphenyl, 2,2',4,4',5,5'-hexachloro-; 2,2',4,5,5'-Tetrachlorobiphenyl; 2,4, 4'-trichlorobiphenyl; 1,1'-Biphenyl, 2,3,3',4,4',5,5'-heptachloro-; 2,3,3',4,4',5'- Hexachlorobiphenyl; 1,1'-Biphenyl, 2,3,3',4,4',5-hexachloro-; 2,3',4,4',5,5'- Pentachloro-1,1'-biphenyl

Clean Water Act (CWA) 311: Biphenyl, 3,3',4,4',5,5'-hexachloro-; 1,1'-Biphenyl, 3,3',4,4', 5-pentachloro-; Biphenyl, 2,3,3',4,4'-pentachloro-; 1,1'-Biphenyl, 3,3',4,4'-tetrachloro-; Biphenyl, 3,3',4,5'-tetrachloro-; 1,1'-Biphenyl, 2,2',3,4,4'-pentachloro-; 2,2',3,4,4',5'-Hexachlorobiphenyl; 1,1'-Biphenyl, 2,2',4,4',5,5'-hexachloro-; 2,2',4,5,5'- Pentachloro-1,1'-biphenyl; 2,2',5,5'-Tetrachlorobiphenyl; 2,4,4'-trichlorobiphenyl; 1,1'-Biphenyl, 2,3,3',4,4',5,5'-hexachloro-; 2,3,3',4,4',5'-hexachlorobiphenyl; 1,1'-Biphenyl, 2,3,4,4',5-pentachloro-; 1, 1'-Biphenyl, 2,3',4,4',5-pentachloro-; 2,3',4,4',5'-Pentachloro-1,1'-biphenyl

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304 Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

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### Section 15. Regulatory information

**Classification**: Dioxin/Furan/DL-PCB Check Standard

- **Product name**: Dioxin/Furan/DL-PCB Check Standard
  - **Composition/information on ingredients**
    - **Name**: nonane
      - **%**: ≥90
      - **Classification**: FLAMMABLE LIQUIDS - Category 3
        - **ACUTE TOXICITY (inhalation)** - Category 4
        - **SKIN IRRIGATION** - Category 2
        - **EYE IRRIGATION** - Category 2A
        - **SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)** (Respiratory tract irritation) - Category 3
        - **SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)** (Narcotic effects) - Category 3
        - **SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE)** (central nervous system (CNS)) - Category 2
        - **ASPIRATION HAZARD** - Category 1
        - **HNOC** - Defatting irritant

- **Product name**: DL/NDL-PCB Check Standard
  - **Composition/information on ingredients**
    - **Name**: 2,2,4-trimethylpentane
      - **%**: ≥90
      - **Classification**: FLAMMABLE LIQUIDS - Category 2
        - **SKIN IRRIGATION** - Category 2
        - **EYE IRRIGATION** - Category 2A
        - **SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)** (Respiratory tract irritation) - Category 3
        - **SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)** (Narcotic effects) - Category 3
        - **ASPIRATION HAZARD** - Category 1
        - **HNOC** - Defatting irritant

#### SARA 313

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th><strong>CAS number</strong></th>
<th><strong>%</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Octachlorodibenzo-p-dioxin</td>
<td>3268-87-9</td>
<td>≤0.1</td>
</tr>
<tr>
<td>Dibenzo(furan, octachloro-</td>
<td>39001-02-0</td>
<td>&lt;0.1</td>
</tr>
<tr>
<td>1,2,3,7,8-Pentachlorodibenzo-p-dioxin</td>
<td>40321-76-4</td>
<td>≤0.1</td>
</tr>
<tr>
<td>1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin</td>
<td>39227-28-6</td>
<td>≤0.1</td>
</tr>
<tr>
<td>1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin</td>
<td>57653-85-7</td>
<td>≤0.1</td>
</tr>
<tr>
<td>1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin</td>
<td>19408-74-3</td>
<td>≤0.1</td>
</tr>
<tr>
<td>1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin</td>
<td>35822-46-9</td>
<td>≤0.1</td>
</tr>
<tr>
<td>1,2,3,7,8-Pentachlorodibenzo[4]furan</td>
<td>57117-41-6</td>
<td>&lt;0.1</td>
</tr>
<tr>
<td>2,3,4,7,8-Pentachlorodibenzo[4]furan</td>
<td>57117-31-4</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>1,2,3,4,7,8-Hexachlorodibenzo[4]furan</td>
<td>70648-26-9</td>
<td>≤0.1</td>
</tr>
<tr>
<td>1,2,3,6,7,8-Hexachlorodibenzo[4]furan</td>
<td>57117-44-9</td>
<td>&lt;0.1</td>
</tr>
<tr>
<td>1,2,3,7,8,9-Hexachlorodibenzo[4]furan</td>
<td>72918-21-9</td>
<td>&lt;0.1</td>
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<tr>
<td>2,3,4,6,7,8-Hexachlorodibenzo[4]furan</td>
<td>60851-34-5</td>
<td>≤0.1</td>
</tr>
<tr>
<td>1,2,3,4,6,7,8-Heptachlorodibenzo[4]furan</td>
<td>67562-39-4</td>
<td>≤0.1</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Maximum acceptable dosage level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,3,4,7,8,9-Heptachlorodibenzofuran</td>
<td>55673-89-7</td>
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<tr>
<td>Biphenyl, 3',4',4'-tetrachloro-</td>
<td>32598-13-3</td>
</tr>
<tr>
<td>1,1'-Biphenyl, 3,4',4',5-tetrachloro-</td>
<td>70362-50-4</td>
</tr>
<tr>
<td>Biphenyl, 2,3,3',4,4'-pentachloro-</td>
<td>32598-14-4</td>
</tr>
<tr>
<td>1,1'-Biphenyl, 3,3',4,4',5-pentachloro-</td>
<td>57465-28-8</td>
</tr>
<tr>
<td>Biphenyl, 3,3',4,4',5,5'-hexachloro-</td>
<td>32774-16-6</td>
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<tr>
<td>2,3,7,8-tetrachlorodibenzo[b,e]1,4dioxin</td>
<td>1746-01-6</td>
</tr>
<tr>
<td>2,3,7,8-TETRACHLORODIBENZOFURAN</td>
<td>51207-31-9</td>
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</table>

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>No significant risk level</th>
</tr>
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<tbody>
<tr>
<td>DL/NDL-PCB Check Standard</td>
<td>31508-00-6</td>
</tr>
<tr>
<td>Biphenyl, 2,3,3',4,4'-pentachloro-</td>
<td>32598-14-4</td>
</tr>
<tr>
<td>2,3',4,4',5'-Pentachloro-1,1'-biphenyl</td>
<td>65510-44-3</td>
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<td>1,1'-Biphenyl, 2,3,4,4',5-pentachloro-</td>
<td>74472-37-0</td>
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<tr>
<td>2,3',4,4',5,5'-hexachlorobiphenyl</td>
<td>52663-72-6</td>
</tr>
<tr>
<td>1,1'-Biphenyl, 2,3,3',4,4',5-hexachlorobiphenyl</td>
<td>38380-08-4</td>
</tr>
<tr>
<td>2,3',3,4,4',5,5'-hexachlorobiphenyl</td>
<td>69782-90-7</td>
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<tr>
<td>1,1'-Biphenyl, 2,3,3',4,4',5,5'-heptachloro-</td>
<td>39635-31-9</td>
</tr>
<tr>
<td>2,4,4'-trichlorobiphenyl</td>
<td>7012-37-5</td>
</tr>
<tr>
<td>2,2',5,5'-Tetrachlorobiphenyl</td>
<td>35693-99-3</td>
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<tr>
<td>1,1'-Biphenyl, 2,2',4,5,5'-pentachloro-</td>
<td>37680-73-2</td>
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<td>1,1'-Biphenyl, 2,2',4,4',5,5'-hexachlorobiphenyl</td>
<td>35065-27-1</td>
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<tr>
<td>2,2',3,4,4',5'-Hexachlorobiphenyl</td>
<td>35065-28-2</td>
</tr>
<tr>
<td>1,1'-Biphenyl, 2,2',3,4,4',5,5'-heptachloro-</td>
<td>35065-29-3</td>
</tr>
</tbody>
</table>

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations
- **Massachusetts**: The following components are listed: NONANE; ISOOCTANE
- **New York**: The following components are listed: 2,2,4-Trimethylpentane
- **New Jersey**: The following components are listed: NONANE; 2,2,4-TRIMETHYL-PENTANE
- **Pennsylvania**: The following components are listed: NONANE; PENTANE, 2,2,4-TRIMETHYL-

### California Prop. 65

**WARNING**: This product can expose you to chemicals including 2,3,7,8-Tetrachlorodibenzo-p-dioxin, Polychlorinated biphenyls, Polychlorinated biphenyls, Polychlorinated biphenyls, Polychlorinated biphenyls, Polychlorinated biphenyls, Polychlorinated biphenyls, Polychlorinated biphenyls, Polychlorinated biphenyls, which are known to the State of California to cause cancer and birth defects or other reproductive harm. This product can expose you to chemicals including Polychlorinated dibenzo-p-dioxins, Polychlorinated dibenzo-p-dioxins, Polychlorinated dibenzo-p-dioxins, Polychlorinated dibenzo-p-dioxins, Polychlorinated dibenzo-p-dioxins, Polychlorinated dibenzo-p-dioxins, Polychlorinated dibenzo-p-dioxins, Polychlorinated dibenzo-p-dioxins, Polychlorinated dibenzo-p-dioxins, which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>No significant risk level</th>
<th>Maximum acceptable dosage level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dioxin/Furan/DL-PCB Check Standard</strong></td>
<td>Yes.</td>
<td>-</td>
</tr>
<tr>
<td>2,3,7,8-Tetrachlorodibenzo-p-dioxin</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Polychlorinated dibenzo-p-dioxins</td>
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</tr>
<tr>
<td>Polychlorinated dibenzo-p-dioxins</td>
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</tr>
</tbody>
</table>

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International regulations

**Chemical Weapon Convention List Schedules I, II & III Chemicals**
Not listed.

**Montreal Protocol (Annexes A, B, C, E)**
Not listed.

**Stockholm Convention on Persistent Organic Pollutants**
Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)**
Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**
Not listed.

**Inventory list**

Australia: Not determined.
Canada: Not determined.
China: Not determined.
Europe: Not determined.
Malaysia: Not determined.
New Zealand: Not determined.
Philippines: Not determined.
Republic of Korea: Not determined.
Taiwan: Not determined.
Thailand: Not determined.
Turkey: Not determined.

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United States : Not determined.
Viet Nam : Not determined.

Section 16. Other information

History
Date of issue : 09/25/2018
Date of previous issue : 10/20/2016
Version : 3

Procedure used to derive the classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
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<tbody>
<tr>
<td><strong>Dioxin/Furan/DL-PCB Check Standard</strong></td>
<td></td>
</tr>
<tr>
<td>FLAMMABLE LIQUIDS - Category 3</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>ACUTE TOXICITY (inhalation) - Category 4</td>
<td>Calculation method</td>
</tr>
<tr>
<td>SKIN IRRITATION - Category 2</td>
<td>Calculation method</td>
</tr>
<tr>
<td>EYE IRRITATION - Category 2A</td>
<td>Calculation method</td>
</tr>
<tr>
<td>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3</td>
<td>Calculation method</td>
</tr>
<tr>
<td>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3</td>
<td>Calculation method</td>
</tr>
<tr>
<td>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS)) - Category 2</td>
<td>Calculation method</td>
</tr>
<tr>
<td>ASPIRATION HAZARD - Category 1</td>
<td>Expert judgment</td>
</tr>
<tr>
<td>AQUATIC HAZARD (ACUTE) - Category 1</td>
<td>Calculation method</td>
</tr>
<tr>
<td>AQUATIC HAZARD (LONG-TERM) - Category 1</td>
<td>Calculation method</td>
</tr>
<tr>
<td><strong>DL/NDL-PCB Check Standard</strong></td>
<td></td>
</tr>
<tr>
<td>FLAMMABLE LIQUIDS - Category 2</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>SKIN IRRITATION - Category 2</td>
<td>Calculation method</td>
</tr>
<tr>
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<td>Calculation method</td>
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<td>AQUATIC HAZARD (LONG-TERM) - Category 1</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

Indicates information that has changed from previously issued version.

Notice to reader
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