

SAFETY DATA SHEET



Dioxin Analyzer Standard, Part Number G3440-85039

Section 1. Identification

Product identifier : 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

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

Supplier/Manufacturer : Agilent Technologies Australia Pty Ltd
 679 Springvale Road
 Mulgrave
 Victoria 3170, Australia
 1800 802 402

Emergency telephone number (with hours of operation) : CHEMTREC®: +(61)-290372994

Section 2. Hazard(s) identification

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 CORROSION/IRRITATION - Category 2
 H319 SERIOUS EYE DAMAGE/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 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
 H410 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1

DL/NDL-PCB Check Standard

H225 FLAMMABLE LIQUIDS - Category 2
 H315 SKIN CORROSION/IRRITATION - Category 2
 H336 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3
 H304 ASPIRATION HAZARD - Category 1
 H400 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
 H410 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1

GHS label elements

Section 2. Hazard(s) identification

Hazard pictograms	: <input checked="" type="checkbox"/> Dioxin/Furan/DL-PCB Check Standard	
	DL/NDL-PCB Check Standard	
Signal word	: Dioxin/Furan/DL-PCB Check Standard	DANGER
	DL/NDL-PCB Check Standard	DANGER
Hazard statements	: <input checked="" type="checkbox"/> Dioxin/Furan/DL-PCB Check Standard	<p>H226 - Flammable liquid and vapour.</p> <p>H332 - Harmful if inhaled.</p> <p>H319 - Causes serious eye irritation.</p> <p>H315 - Causes skin irritation.</p> <p>H304 - May be fatal if swallowed and enters airways.</p> <p>H335 - May cause respiratory irritation.</p> <p>H336 - May cause drowsiness or dizziness.</p> <p>H373 - May cause damage to organs through prolonged or repeated exposure. (central nervous system (CNS))</p> <p>H410 - Very toxic to aquatic life with long lasting effects.</p>
	DL/NDL-PCB Check Standard	<p>H225 - Highly flammable liquid and vapour.</p> <p>H315 - Causes skin irritation.</p> <p>H304 - May be fatal if swallowed and enters airways.</p> <p>H336 - May cause drowsiness or dizziness.</p> <p>H410 - Very toxic to aquatic life with long lasting effects.</p>
Precautionary statements		
Prevention	: <input checked="" type="checkbox"/> Dioxin/Furan/DL-PCB Check Standard	<p>P280 - Wear protective gloves. Wear eye or face protection.</p> <p>P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p> <p>P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.</p> <p>P242 - Use only non-sparking tools.</p> <p>P243 - Take precautionary measures against static discharge.</p> <p>P233 - Keep container tightly closed.</p> <p>P271 - Use only outdoors or in a well-ventilated area.</p> <p>P273 - Avoid release to the environment.</p> <p>P260 - Do not breathe vapour.</p> <p>P264 - Wash hands thoroughly after handling.</p>
	DL/NDL-PCB Check Standard	<p>P280 - Wear protective gloves. Wear eye or face protection.</p> <p>P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p> <p>P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.</p> <p>P242 - Use only non-sparking tools.</p> <p>P243 - Take precautionary measures against static discharge.</p> <p>P233 - Keep container tightly closed.</p> <p>P271 - Use only outdoors or in a well-ventilated area.</p> <p>P273 - Avoid release to the environment.</p> <p>P261 - Avoid breathing vapour.</p>

Section 2. Hazard(s) identification

Response

: Dioxin/Furan/DL-PCB Check Standard

P264 - Wash hands thoroughly after handling.

P391 - Collect spillage.

P314 - Get medical attention if you feel unwell.

P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position 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 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing.

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

P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position 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 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing.

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

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

Additional warning phrases

: Dioxin/Furan/DL-PCB Check Standard

Not applicable.

DL/NDL-PCB Check Standard

Not applicable.

Section 2. Hazard(s) identification

Other hazards which do not result in classification : Dioxin/Furan/DL-PCB Check Standard None known.
DL/NDL-PCB Check Standard None known.

Section 3. Composition and ingredient information

Substance/mixture : Dioxin/Furan/DL-PCB Check Mixture Standard
DL/NDL-PCB Check Mixture Standard

CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
Dioxin/Furan/DL-PCB Check Standard nonane	≥90	111-84-2
DL/NDL-PCB Check Standard 2,2,4-trimethylpentane	≥90	540-84-1

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

Description of necessary 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

Section 4. First aid measures

		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 hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. 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	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 hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: Dioxin/Furan/DL-PCB Check Standard	Causes serious eye irritation.
	DL/NDL-PCB Check Standard	No known significant effects or critical hazards.
Inhalation	: Dioxin/Furan/DL-PCB Check Standard	Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
	DL/NDL-PCB Check Standard	Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
Skin contact	: Dioxin/Furan/DL-PCB Check Standard	Causes skin irritation.
	DL/NDL-PCB Check Standard	Causes skin irritation.

Section 4. First aid measures

Ingestion : Dioxin/Furan/DL-PCB Check Standard Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.
DL/NDL-PCB Check Standard 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 Adverse symptoms may include the following:
pain or irritation
watering
redness
DL/NDL-PCB Check Standard Adverse symptoms may include the following:
pain or irritation
watering
redness

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:
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

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

Notes to physician : Dioxin/Furan/DL-PCB 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/DL-PCB Check Standard No specific treatment.
DL/NDL-PCB Check Standard No specific treatment.

Section 4. First aid measures

Protection of first-aiders	: Dioxin/Furan/DL-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.
	: 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. Firefighting measures

Extinguishing media

Suitable extinguishing media	: Dioxin/Furan/DL-PCB Check Standard	Use dry chemical, CO ₂ , water spray (fog) or foam.
	: DL/NDL-PCB Check Standard	Use dry chemical, CO ₂ , water spray (fog) or foam.
Unsuitable extinguishing media	: Dioxin/Furan/DL-PCB Check Standard	Do not use water jet.
	: DL/NDL-PCB Check Standard	Do not use water jet.

Specific hazards arising from the chemical

: <input checked="" type="checkbox"/> Dioxin/Furan/DL-PCB Check Standard	Flammable liquid and vapour. 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.
	Highly flammable liquid and vapour. 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. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. 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.

Hazardous thermal decomposition products

: Dioxin/Furan/DL-PCB Check Standard	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	Decomposition products may include the following materials: carbon dioxide carbon monoxide

Section 5. Firefighting measures

Special protective actions for fire-fighters	: Dioxin/Furan/DL-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.
	: 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.
Special protective equipment for fire-fighters	: Dioxin/Furan/DL-PCB Check Standard	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	: DL/NDL-PCB Check Standard	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Hazchem code	: Dioxin/Furan/DL-PCB Check Standard	3Y
	: DL/NDL-PCB Check Standard	3YE

Section 6. Accidental release measures

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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour 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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour 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 specialised 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 specialised 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".

Section 6. Accidental release measures

Environmental precautions	: Dioxin/Furan/DL-PCB Check Standard	Avoid dispersal of spilt 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 spilt 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.

Methods and material for containment and cleaning up

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

Precautions for safe handling

Protective measures	: Dioxin/Furan/DL-PCB Check Standard	Put on appropriate personal protective equipment (see Section 8). Do not breathe vapour 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 vapour 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

Section 7. Handling and storage

<p>Advice on general occupational hygiene</p>	<p>: Dioxin/Furan/DL-PCB Check Standard</p> <p>DL/NDL-PCB Check Standard</p>	<p>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.</p> <p>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.</p> <p>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.</p>
<p>Conditions for safe storage, including any incompatibilities</p>	<p>: <input checked="" type="checkbox"/> Dioxin/Furan/DL-PCB Check Standard</p> <p>DL/NDL-PCB Check Standard</p>	<p>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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p> <p>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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>

Section 8. Exposure controls and personal protection

[Control parameters](#)

[Occupational exposure limits](#)

Ingredient name	Exposure limits
<p><input checked="" type="checkbox"/> Dioxin/Furan/DL-PCB Check Standard nonane</p>	<p>Safe Work Australia (Australia, 1/2014). TWA: 1050 mg/m³ 8 hours. TWA: 200 ppm 8 hours.</p>
<p>DL/NDL-PCB Check Standard 2,2,4-trimethylpentane</p>	<p>ACGIH TLV (United States, 3/2017). TWA: 300 ppm 8 hours.</p>

Section 8. Exposure controls and personal protection

- 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, vapour 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**
- Hand 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.
- Body 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.
- 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

Appearance

- Physical state** : Dioxin/Furan/DL-PCB Check Liquid.
Standard
DL/NDL-PCB Check Liquid.
Standard
- Colour** : Dioxin/Furan/DL-PCB Check Not available.
Standard
DL/NDL-PCB Check Not available.
Standard
- Odour** : Dioxin/Furan/DL-PCB Check Not available.
Standard
DL/NDL-PCB Check Not available.
Standard

Section 9. Physical and chemical properties

Odour threshold	: Dioxin/Furan/DL-PCB Check	Not available.
	Standard	
	: DL/NDL-PCB Check	Not available.
	Standard	
pH	: Dioxin/Furan/DL-PCB Check	Not available.
	Standard	
	: DL/NDL-PCB Check	Not available.
	Standard	
Melting point	: Dioxin/Furan/DL-PCB Check	-53°C (-63.4°F)
	Standard	
	: DL/NDL-PCB Check	-107°C (-160.6°F)
	Standard	
Boiling point	: Dioxin/Furan/DL-PCB Check	151°C (303.8°F)
	Standard	
	: DL/NDL-PCB Check	98 to 99°C (208.4 to 210.2°F)
	Standard	
Flash point	: Dioxin/Furan/DL-PCB Check	Closed cup: 31°C (87.8°F)
	Standard	
	: DL/NDL-PCB Check	Closed cup: -12°C (10.4°F)
	Standard	
Evaporation rate	: Dioxin/Furan/DL-PCB Check	Not available.
	Standard	
	: DL/NDL-PCB Check	Not available.
	Standard	
Flammability (solid, gas)	: Dioxin/Furan/DL-PCB Check	Not applicable.
	Standard	
	: DL/NDL-PCB Check	Not applicable.
	Standard	
Lower and upper explosive (flammable) limits	: Dioxin/Furan/DL-PCB Check	Lower: 0.87%
	Standard	
		Upper: 2.9%
	: DL/NDL-PCB Check	Lower: 1%
Vapour pressure	: Dioxin/Furan/DL-PCB Check	Not available.
	Standard	
	: DL/NDL-PCB Check	5.5 kPa (41 mm Hg) [room temperature]
	Standard	
Vapour density	: Dioxin/Furan/DL-PCB Check	Not available.
	Standard	
	: DL/NDL-PCB Check	3.94 [Air = 1]
	Standard	
Relative density	: Dioxin/Furan/DL-PCB Check	Not available.
	Standard	
	: DL/NDL-PCB Check	Not available.
	Standard	
Solubility	: Dioxin/Furan/DL-PCB Check	Insoluble in the following materials: cold water and hot water.
	Standard	
	: DL/NDL-PCB Check	Insoluble in the following materials: cold water and hot water.
	Standard	
Partition coefficient: n-octanol/water	: Dioxin/Furan/DL-PCB Check	Not available.
	Standard	
	: DL/NDL-PCB Check	Not available.
	Standard	
Auto-ignition temperature	: Dioxin/Furan/DL-PCB Check	205°C (401°F)
	Standard	
	: DL/NDL-PCB Check	396°C (744.8°F)
	Standard	

Section 9. Physical and chemical properties

Decomposition temperature : Dioxin/Furan/DL-PCB Check Not available.
Standard
DL/NDL-PCB Check Not available.
Standard

Viscosity : Dioxin/Furan/DL-PCB Check Not available.
Standard
DL/NDL-PCB Check Not available.
Standard

Section 10. Stability and reactivity

Reactivity : Dioxin/Furan/DL-PCB Check No specific test data related to reactivity available for this product or its ingredients.
Standard
DL/NDL-PCB Check No specific test data related to reactivity available for this product or its ingredients.
Standard

Chemical stability : Dioxin/Furan/DL-PCB Check The product is stable.
Standard
DL/NDL-PCB Check The product is stable.
Standard

Possibility of hazardous reactions : Dioxin/Furan/DL-PCB Check Under normal conditions of storage and use, hazardous reactions will not occur.
Standard
DL/NDL-PCB Check Under normal conditions of storage and use, hazardous reactions will not occur.
Standard

Conditions to avoid : Dioxin/Furan/DL-PCB Check Avoid all possible sources of ignition (spark or flame).
Standard Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

DL/NDL-PCB Check Avoid all possible sources of ignition (spark or flame).
Standard Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Do not allow vapour to accumulate in low or confined areas.

Incompatible materials : Dioxin/Furan/DL-PCB Check Reactive or incompatible with the following materials:
Standard oxidizing materials

DL/NDL-PCB Check Reactive or incompatible with the following materials:
Standard oxidizing materials

Hazardous decomposition products : Dioxin/Furan/DL-PCB Check Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Standard

DL/NDL-PCB Check Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Standard

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
Dioxin/Furan/DL-PCB Check Standard nonane	LC50 Inhalation Vapour LC50 Inhalation Vapour LD50 Oral	Rat Rat Rat - Male, Female	17000 mg/m ³ 3200 ppm >5000 mg/kg	4 hours 4 hours -
DL/NDL-PCB Check Standard 2,2,4-trimethylpentane	LC50 Inhalation Vapour LD50 Oral	Rat - Male, Female Rat - Male, Female	>33.52 mg/l >5000 mg/kg	4 hours -

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Dioxin/Furan/DL-PCB Check Standard nonane	Skin - Moderate irritant	Rat	-	96 hours 300 microliters	-

Sensitisation

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)

Name	Category	Route of exposure	Target organs
Dioxin/Furan/DL-PCB Check Standard nonane	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
DL/NDL-PCB Check Standard 2,2,4-trimethylpentane	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Dioxin/Furan/DL-PCB Check Standard nonane	Category 2	Not determined	central nervous system (CNS)

Aspiration hazard

Section 11. Toxicological information

Name	Result
Dioxin/Furan/DL-PCB Check Standard Dioxin/Furan/DL-PCB Check Standard nonane	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1
DL/NDL-PCB Check Standard DL/NDL-PCB Check Standard 2,2,4-trimethylpentane	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

Information on likely routes of exposure : Dioxin/Furan/DL-PCB Check Standard Routes of entry anticipated: Oral, Dermal, Inhalation.
 DL/NDL-PCB Check Standard Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : Dioxin/Furan/DL-PCB Check Standard Causes serious eye irritation.
 DL/NDL-PCB Check Standard No known significant effects or critical hazards.

Inhalation : Dioxin/Furan/DL-PCB Check Standard Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
 DL/NDL-PCB Check Standard Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact : Dioxin/Furan/DL-PCB Check Standard Causes skin irritation.
 DL/NDL-PCB Check Standard Causes skin irritation.

Ingestion : Dioxin/Furan/DL-PCB Check Standard Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.
 DL/NDL-PCB Check Standard Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Dioxin/Furan/DL-PCB Check Standard Adverse symptoms may include the following:
 pain or irritation
 watering
 redness
 DL/NDL-PCB Check Standard Adverse symptoms may include the following:
 pain or irritation
 watering
 redness

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:
 nausea or vomiting
 headache
 drowsiness/fatigue
 dizziness/vertigo
 unconsciousness

Section 11. Toxicological information

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 as well as 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.
Fertility 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.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Dioxin/Furan/DL-PCB Check Standard Inhalation (vapours)	17 mg/l

Section 11. Toxicological information

Other information : Dioxin/Furan/DL-PCB Check Standard Adverse symptoms may include the following: Repeated exposure may cause skin dryness or cracking.

DL/NDL-PCB Check Standard Adverse symptoms sometimes include the following: Repeated exposure may cause skin dryness or cracking.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
DL/NDL-PCB Check Standard 2,2,4-trimethylpentane	Acute LC50 0.11 mg/l Fresh water	Fish	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Dioxin/Furan/DL-PCB Check Standard nonane	5.65	105	low
DL/NDL-PCB Check Standard 2,2,4-trimethylpentane	4.08	231	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised 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. Vapour 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

ADG / IMDG / IATA : Not regulated as Dangerous Goods according to the ADG Code .

Additional information

Remarks : De minimis quantities

ADG : **Hazchem code** 3YE

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

Standard Uniform Schedule of Medicine and Poisons

7

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

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.
Japan	: Japan inventory (ENCS): Not determined. Japan inventory (ISHL): Not determined.
Malaysia	: Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.
Thailand	: <input checked="" type="checkbox"/> Not determined.
Turkey	: Not determined.
United States	: Not determined.
Viet Nam	: <input checked="" type="checkbox"/> Not determined.

Section 16. Any other relevant information

History

Date of issue/Date of revision : 25/09/2018

Date of previous issue : 20/10/2016

Version : 3

Key to abbreviations

ADG = Australian Dangerous Goods
 ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 NOHSC = National Occupational Health and Safety Commission
 SUSMP = Standard Uniform Schedule of Medicine and Poisons
 UN = United Nations

Procedure used to derive the classification

Classification	Justification
Dioxin/Furan/DL-PCB Check Standard Flam. Liq. 3, H226 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 STOT SE 3, H336 STOT RE 2, H373 (central nervous system (CNS)) Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Expert judgment Calculation method Calculation method
DL/NDL-PCB Check Standard Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	On basis of test data Calculation method Calculation method Expert judgment Calculation method Calculation method

References : Not available.

✔ Indicates information that has changed from previously issued version.

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