



# SAFETY DATA SHEET NONYLPHENOL REVISION 3, DATE 24 OCT 19

## 1. IDENTIFICATION

<b>Product Name</b>	<b>Nonylphenol</b>
<b>Other Names</b>	Nonyl phenol; Nonylphenol, 4-branched
<b>Uses</b>	Intermediate; used in manufacturing antioxidants, lubricating oil additives, laundry and dish detergents, emulsifiers and solubilisers.
<b>Chemical Family</b>	No Data Available
<b>Chemical Formula</b>	Unspecified
<b>Chemical Name</b>	Phenol, 4-nonyl-, branched
<b>Product Description</b>	No Data Available

### Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

### Emergency Contact Details

*For emergencies only; DO NOT contact these companies for general product advice.*

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

## 2. HAZARD IDENTIFICATION

### Poisons Schedule (Aust)

Not Scheduled



## Globally Harmonised System

**Hazard Classification** Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

**Hazard Categories**

Acute Toxicity (Oral) - Category 4  
 Skin Corrosion/Irritation - Category 1B  
 Serious Eye Damage/Irritation - Category 1  
 Toxic To Reproduction - Category 2  
 Acute Hazard To The Aquatic Environment - Category 1  
 Long-term Hazard To The Aquatic Environment - Category 1

**Pictograms**

**Signal Word** Danger

<b>Hazard Statements</b>		<b>H302</b>	Harmful if swallowed.
		<b>H314</b>	Causes severe skin burns and eye damage.
		<b>H361fd</b>	Suspected of damaging fertility. Suspected of damaging the unborn child.
		<b>H410</b>	Very toxic to aquatic life with long lasting effects.
<b>Precautionary Statements</b>	Prevention	<b>P260</b>	Do not breathe mist/vapour/spray.
		<b>P280</b>	Wear protective gloves/protective clothing/eye protection/face protection.
		<b>P201</b>	Obtain special instructions before use.
		<b>P273</b>	Avoid release to the environment.
		<b>P270</b>	Do not eat, drink or smoke when using this product.
	Response	<b>P303 + P361 + P353</b>	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
		<b>P305 + P351 + P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		<b>P310</b>	Immediately call a POISON CENTER or doctor.
		<b>P301 + P330 + P331</b>	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
		<b>P363</b>	Wash contaminated clothing before reuse.
		<b>P308 + P313</b>	IF exposed or concerned: Get medical attention.
		<b>P391</b>	Collect spillage.
		<b>P304 + P340</b>	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
	Storage	<b>P405</b>	Store locked up.
	Disposal	<b>P501</b>	Dispose of contents/container in accordance with local / regional / national / international regulations.

**National Transport Commission (Australia)**

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

**Dangerous Goods Classification** Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Ingredients**

Chemical Entity	Formula	CAS Number	Proportion
Nonylphenol, 4-branched	Unspecified	84852-15-3	>=99 - 100 %

**4. FIRST AID MEASURES****Description of necessary measures according to routes of exposure**

<b>Swallowed</b>	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a Poison Centre or doctor/physician for advice. Never give anything by mouth to an unconscious person.
<b>Eye</b>	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. Immediately call a Poison Centre or doctor/physician for advice.
<b>Skin</b>	IF ON SKIN (or hair): Remove contaminated clothing and shoes immediately. Flush skin with running water for at least 15 minutes. Immediately call a Poison Centre or doctor/physician for advice. For minor skin contact, avoid spreading material on unaffected skin. Wash contaminated clothing and shoes before reuse.
<b>Inhaled</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a Poison Centre or doctor/physician for advice. Apply resuscitation if victim is not breathing - Do not use direct mouth-to-mouth method if victim ingested or inhaled the substance; use alternative respiratory method or proper respiratory device - Administer oxygen if breathing is difficult.
<b>Advice to Doctor</b>	Keep victim calm and warm - Obtain immediate medical care. Ensure that attending medical personnel are aware of identity and nature of product(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.
<b>Medical Conditions Aggravated by Exposure</b>	No information available.

**5. FIRE FIGHTING MEASURES**

<b>General Measures</b>	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out. Avoid getting water inside containers.
<b>Flammability Conditions</b>	Combustible; May burn but does not ignite readily.
<b>Extinguishing Media</b>	Use dry chemical, Carbon dioxide (CO2), foam or water spray for extinction - Do not use water jets.
<b>Fire and Explosion Hazard</b>	Containers may explode when heated. When heated, vapours may form explosive mixtures with air.
<b>Hazardous Products of Combustion</b>	Fire will produce irritating, toxic and/or corrosive gases, including Carbon oxides and/or low molecular weight hydrocarbons.
<b>Special Fire Fighting Instructions</b>	Contain runoff from fire control or dilution water - Runoff may be toxic and/or corrosive and may pollute waterways.
<b>Personal Protective Equipment</b>	Wear self-contained breathing apparatus (SCBA) and chemical splash suit. Fully-encapsulating, gas-tight suits should be worn for maximum protection. Structural firefighter's uniform is NOT effective for this material.
<b>Flash Point</b>	154 °C [PMCC]
<b>Lower Explosion Limit</b>	No Data Available
<b>Upper Explosion Limit</b>	No Data Available
<b>Auto Ignition Temperature</b>	372 °C
<b>Hazchem Code</b>	2X

**6. ACCIDENTAL RELEASE MEASURES**

<b>General Response Procedure</b>	Ensure adequate ventilation - Ventilate enclosed spaces before entering. ELIMINATE all ignition sources. Do not touch or walk through spilled material. Do not breathe vapours and prevent contact with eyes, skin and clothing.
<b>Clean Up Procedures</b>	Absorb with earth, sand or other non-combustible material and transfer to a suitable container for disposal (see SECTION 13). Never return spills into original containers for re-use.
<b>Containment</b>	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Cover with plastic sheet to prevent spreading.
<b>Decontamination</b>	Clean surface thoroughly to remove residual contamination.
<b>Environmental Precautionary Measures</b>	Spillages and decontamination runoff should be prevented from entering drains and watercourses.
<b>Evacuation Criteria</b>	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground. Large spill: Immediately contact Police or Fire Brigade; Consider initial downwind evacuation of areas within at least 250 m.
<b>Personal Precautionary Measures</b>	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (see SECTION 8). Large spill: Wear SCBA and chemical splash suit.

**7. HANDLING AND STORAGE**

<b>Handling</b>	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Obtain special instructions before use - Do not handle until all safety precautions have been read and understood. Do not breathe mist/vapours/spray and prevent contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). Do not handle, store or open near sources of heat or ignition - No smoking. Organics can obtain an electrostatic charge during processing activities (including storage, mixing, filtering, or pumping) and may result in a discharge as sparks capable of causing ignition of organic vapours. All equipment used when handling the product must be grounded. Avoid release to the environment - Collect spillage (see SECTION 6).
<b>Storage</b>	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Use care in handling/storage. The pressure in sealed containers can increase under the influence of heat. Keep away from heat and sources of ignition - No smoking. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Keep away from foodstuffs and incompatible materials (see SECTION 10). Store locked up.
<b>Container</b>	Keep in the original container. Empty containers retain product residue (liquid or vapour) and can be dangerous. Do not re-use empty containers.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

<b>General</b>	No specific exposure standards are available for this product.
<b>Exposure Limits</b>	No Data Available
<b>Biological Limits</b>	No information available.
<b>Engineering Measures</b>	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
<b>Personal Protection Equipment</b>	<ul style="list-style-type: none"> <li>- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Full-face respirator with multi-purpose combination or type ABEK respirator cartridges. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection (refer to AS/NZS 1715 &amp; 1716).</li> <li>- Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Tightly fitting safety goggles; Face-shield, as appropriate.</li> <li>- Hand protection: Wear protective gloves. Recommended: Nitrile rubber.</li> <li>- Skin/body protection: Wear appropriate personal protective clothing to prevent skin contact. Recommended: Complete</li> </ul>

suit protecting against chemicals.

#### Work Hygienic Practices

Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands before breaks and at the end of workday.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid
Odour	Phenolic
Colour	Yellow
pH	No Data Available
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	302 °C
Melting Point	<-7 °C (Pour point)
Freezing Point	No Data Available
Solubility	Slightly soluble in water
Specific Gravity	0.95
Flash Point	154 °C [PMCC]
Auto Ignition Temp	372 °C
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	0.95 g/mL
Specific Heat	No Data Available
Molecular Weight	220.35 g/mol
Net Propellant Weight	No Data Available
Octanol Water Coefficient	log Pow: 5.4 (23 °C)
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	2,320 mPa.s (@ 20 °C)
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	Not applicable.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Combustible; May burn but does not ignite readily.

<b>Reactions That Release Gases or Vapours</b>	Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.
<b>Release of Invisible Flammable Vapours and Gases</b>	When heated, vapours may form explosive mixtures with air.

## 10. STABILITY AND REACTIVITY

<b>General Information</b>	No information available.
<b>Chemical Stability</b>	Material is stable under normal conditions.
<b>Conditions to Avoid</b>	Keep away from heat and sources of ignition.
<b>Materials to Avoid</b>	Incompatible/reactive with oxidising agents.
<b>Hazardous Decomposition Products</b>	Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.
<b>Hazardous Polymerisation</b>	Hazardous polymerisation does not occur.

## 11. TOXICOLOGICAL INFORMATION

<b>General Information</b>	<ul style="list-style-type: none"> <li>- Acute toxicity: Harmful if swallowed.</li> <li>- Skin corrosion/irritation: Causes severe skin burns.</li> <li>- Eye damage/irritation: Causes serious eye damage.</li> <li>- Respiratory/skin sensitisation: Nonylphenols are not considered to be skin sensitisers.</li> <li>- Germ cell mutagenicity: Nonylphenols are not considered genotoxic.</li> <li>- Carcinogenicity: Carcinogenicity (via a genotoxic mechanism) is not expected. No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.</li> <li>- Reproductive toxicity: Suspected of damaging fertility. Suspected of damaging the unborn child. Neurodevelopmental effects, reproductive effects in males (decreased epididymal sperm density and testicular spermatid head counts), effects on physical maturation and a feminising effect in male pups of dams that received nonylphenol at 50 mg/kg bw/day; and females (increased oestrus cycle length and decreased ovarian weights). The NOAEL for reproductive toxicity was established as 15 mg/kg bw/day in female rats.</li> <li>- STOT (single exposure): Nonylphenol vapours could cause mild irritation to the respiratory tract at high exposure concentrations.</li> <li>- STOT (repeated exposure): Nonylphenols are not considered to cause serious damage to health (excluding reproductive and developmental effects) following repeated exposure.</li> <li>- Aspiration toxicity: No information available.</li> </ul>
<b>Acute</b>	
<b>Ingestion</b>	Acute toxicity (Oral): LD50, Rats: 1,200 - 2,462 mg/kg bw. (Nonylphenol) [NICNAS].
<b>Carcinogen Category</b>	None

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	Aquatic toxicity: <ul style="list-style-type: none"> <li>- LC50, Fish (freshwater): 0.096 mg/L [ECHA].</li> <li>- LC50, Fish (marine water): 0.017 mg/L [ECHA].</li> <li>- EC50/LC50, Invertebrates (freshwater): 0.085 mg/L [ECHA].</li> <li>- EC50/LC50, Invertebrates (marine water): 0.051 mg/L [ECHA].</li> <li>- EC50, Algae (freshwater): 0.41 mg/L [ECHA].</li> <li>- EC50, Algae (marine water): 0.027 mg/L [ECHA].</li> </ul>
<b>Persistence/Degradability</b>	Inherently biodegradable (meeting the criteria for ready biodegradability except for the 10-day window) [OECD 301F].

<b>Mobility</b>	No information available.
<b>Environmental Fate</b>	Very toxic to aquatic life with long lasting effects - Avoid release to the environment.
<b>Bioaccumulation Potential</b>	No information available.
<b>Environmental Impact</b>	No Data Available

### 13. DISPOSAL CONSIDERATIONS

<b>General Information</b>	Dispose of contents/container to a licensed disposal company and in accordance with local/regional/national regulations.
<b>Special Precautions for Land Fill</b>	No information available.

### 14. TRANSPORT INFORMATION

#### Land Transport (Australia)

ADG Code

<b>Proper Shipping Name</b>	ALKYLPHENOLS, LIQUID, N.O.S. (including C2-C12 homologues)
<b>Class</b>	8 Corrosive Substances
<b>Subsidiary Risk(s)</b>	C2 Combustible Liquids - Flash Point >93°C, Closed Cup, Not Excluded Flammable
<b>EPG</b>	36 Toxic And/Or Corrosive Substances Combustible
<b>UN Number</b>	3145
<b>Hazchem</b>	2X
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

#### Land Transport (Malaysia)

ADR Code

<b>Proper Shipping Name</b>	ALKYLPHENOLS, LIQUID, N.O.S. (including C2-C12 homologues)
<b>Class</b>	8 Corrosive Substances
<b>Subsidiary Risk(s)</b>	No Data Available
<b>EPG</b>	36 Toxic And/Or Corrosive Substances Combustible
<b>UN Number</b>	3145
<b>Hazchem</b>	2X
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

#### Land Transport (New Zealand)

NZS5433

<b>Proper Shipping Name</b>	ALKYLPHENOLS, LIQUID, N.O.S. (including C2-C12 homologues)
<b>Class</b>	8 Corrosive Substances
<b>Subsidiary Risk(s)</b>	No Data Available
<b>EPG</b>	36 Toxic And/Or Corrosive Substances Combustible
<b>UN Number</b>	3145
<b>Hazchem</b>	2X

Pack Group	III
Special Provision	No Data Available

**Land Transport (United States of America)**

US DOT

Proper Shipping Name	ALKYLPHENOLS, LIQUID, N.O.S. (including C2-C12 homologues)
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
ERG	153 Substances - Toxic and/or Corrosive (Combustible)
UN Number	3145
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

**Sea Transport**

IMDG Code

Proper Shipping Name	ALKYLPHENOLS, LIQUID, N.O.S. (including C2-C12 homologues)
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	3145
Hazchem	2X
Pack Group	III
Special Provision	No Data Available
EMS	F-A, S-B
Marine Pollutant	Yes

**Air Transport**

IATA DGR

Proper Shipping Name	ALKYLPHENOLS, LIQUID, N.O.S. (including C2-C12 homologues)
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	3145
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

**National Transport Commission (Australia)**

Australian Code for the Transport of Dangerous Goods by Road &amp; Rail (ADG Code)

Dangerous Goods Classification	Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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**15. REGULATORY INFORMATION**

General Information	No Data Available
Poisons Schedule (Aust)	Not Scheduled



## Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

**Approval Code** Additives Process Chemicals and Raw Materials Corrosive Group Standard 2020 HSR002491  
\*HSR003846 (Revoked)

## National/Regional Inventories

<b>Australia (AIIC)</b>	Listed
<b>Canada (DSL)</b>	Listed
<b>Canada (NDSL)</b>	Not Determined
<b>China (IECSC)</b>	Listed
<b>Europe (EINECS)</b>	284-325-5
<b>Europe (REACH)</b>	Not Determined
<b>Japan (ENCS/METI)</b>	Not Determined
<b>Korea (KECI)</b>	Listed
<b>Malaysia (EHS Register)</b>	Listed
<b>New Zealand (NZIoC)</b>	Listed
<b>Philippines (PICCS)</b>	Listed
<b>Switzerland (Giftlist 1)</b>	Not Determined
<b>Switzerland (Inventory of Notified Substances)</b>	Not Determined
<b>Taiwan (NCSR)</b>	Not Determined
<b>USA (TSCA)</b>	Listed

## 16. OTHER INFORMATION

<b>Related Product Codes</b>	NONPHE1000, NONPHE1001, NONPHE1002, NONPHE1003, NONPHE1004, NONPHE1005, NONPHE1006, NONPHE1007, NONPHE1008, NONPHE1009, NONPHE1010, NONPHE1011, NONPHE1012, NONPHE1013, NONPHE1014, NONPHE2000, NONPHE3000, NONPHE3001, NONPHE3002, NONPHE3100, NONPHE4000, NONPHE5000, NONPHE5001, NONPHE6000, NONPHE6001, NONPHE6002
<b>Revision</b>	3
<b>Revision Date</b>	24 Oct 2019
<b>Reason for Issue</b>	Updated SDS
<b>Key/Legend</b>	<p>&lt; Less Than &gt; Greater Than  <b>AICS</b> Australian Inventory of Chemical Substances  <b>atm</b> Atmosphere  <b>CAS</b> Chemical Abstracts Service (Registry Number)  <b>cm<sup>2</sup></b> Square Centimetres  <b>CO<sub>2</sub></b> Carbon Dioxide  <b>COD</b> Chemical Oxygen Demand</p>

**deg C (°C)** Degrees Celcius

**EPA (New Zealand)** Environmental Protection Authority of New Zealand

**deg F (°F)** Degrees Farenheit

**g** Grams

**g/cm<sup>3</sup>** Grams per Cubic Centimetre

**g/l** Grams per Litre

**HSNO** Hazardous Substance and New Organism

**IDLH** Immediately Dangerous to Life and Health

**immiscible** Liquids are insoluable in each other.

**inHg** Inch of Mercury

**inH<sub>2</sub>O** Inch of Water

**K** Kelvin

**kg** Kilogram

**kg/m<sup>3</sup>** Kilograms per Cubic Metre

**lb** Pound

**LC<sub>50</sub>** LC stands for lethal concentration. LC<sub>50</sub> is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.

**LD<sub>50</sub>** LD stands for Lethal Dose. LD<sub>50</sub> is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.

**ltr or L** Litre

**m<sup>3</sup>** Cubic Metre

**mbar** Millibar

**mg** Milligram

**mg/24H** Milligrams per 24 Hours

**mg/kg** Milligrams per Kilogram

**mg/m<sup>3</sup>** Milligrams per Cubic Metre

**Misc or Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.

**mm** Millimetre

**mmH<sub>2</sub>O** Millimetres of Water

**mPa.s** Millipascals per Second

**N/A** Not Applicable

**NIOSH** National Institute for Occupational Safety and Health

**NOHSC** National Occupational Health and Safety Commission

**OECD** Organisation for Economic Co-operation and Development

**Oz** Ounce

**PEL** Permissible Exposure Limit

**Pa** Pascal

**ppb** Parts per Billion

**ppm** Parts per Million

**ppm/2h** Parts per Million per 2 Hours

**ppm/6h** Parts per Million per 6 Hours

**psi** Pounds per Square Inch

**R** Rankine

**RCP** Reciprocal Calculation Procedure

**STEL** Short Term Exposure Limit

**TLV** Threshold Limit Value

**tne** Tonne

**TWA** Time Weighted Average

**ug/24H** Micrograms per 24 Hours

**UN** United Nations

**wt** Weight