



SAFETY DATA SHEET
NONYLPHENOL, ETHOXYLATE (5 EO)
REVISION 4, DATE 01 MAR 19

1. IDENTIFICATION

Product Name	Nonylphenol, ethoxylate (5 EO)
Other Names	Nonyl phenol, NP5; Nonylphenol, polyethylene glycol ether; PANNOX 15B (5.5 EO); Polyethylene glycol, nonylphenyl ether
Uses	Nonionic surfactant.
Chemical Family	No Data Available
Chemical Formula	(C ₂ H ₄ O) _n C ₁₅ H ₂₄ O
Chemical Name	Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydroxy-
Product Description	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		Skin Corrosion/Irritation - Category 2 Serious Eye Damage/Irritation - Category 2A Toxic To Reproduction - Category 2 Acute Hazard To The Aquatic Environment - Category 2 Long-term Hazard To The Aquatic Environment - Category 2	
Pictograms		  	
Signal Word		Warning	
Hazard Statements		H315	Causes skin irritation.
		H319	Causes serious eye irritation.
		H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
		H411	Toxic to aquatic life with long lasting effects.
Precautionary Statements	Prevention	P280	Wear protective gloves/eye protection/face protection.
		P201	Obtain special instructions before use.
		P273	Avoid release to the environment.
	Response	P302 + P352	IF ON SKIN: Wash with plenty of water/...
		P337 + P313	If eye irritation persists: Get medical advice/attention.
		P308 + P313	IF exposed or concerned: Get medical advice/ attention.
		P391	Collect spillage.
		P332 + P313	If skin irritation occurs: Get medical advice/attention.
		P362	Take off contaminated clothing.
		P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	Storage	P405	Store locked up.
	Disposal	P501	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	NOT 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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Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications	Health Hazards	6.1E	Substances that are acutely toxic –May be harmful, Aspiration hazard
		6.3B	Substances that are mildly irritating to the skin
		6.4A	Substances that are irritating to the eye

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Environmental Hazards **9.1B**

Substances that are ecotoxic in the aquatic environment

9.1C

Substances that are harmful in the aquatic environment

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Nonylphenol, ethoxylate (5 EO)	(C ₂ H ₄ O) _n C ₁₅ H ₂₄ O	9016-45-9	<=100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth. Do not induce vomiting unless directed to do so by medical personnel. Call a Poison Centre or doctor/physician for advice.
Eye	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. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN: Remove contaminated clothing and shoes immediately. Flush skin with running water for at least 15 minutes. If skin irritation occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention. Apply resuscitation if victim is not breathing - Administer oxygen if breathing is difficult.
Advice to Doctor	Treat symptomatically. Ensure that attending medical personnel are aware of the identity and nature of the product(s) involved, and take precautions to protect themselves.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
Flammability Conditions	Combustible liquid; May burn but does not ignite readily.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO ₂), foam or water spray for extinction.
Fire and Explosion Hazard	Containers may explode when heated.
Hazardous Products of Combustion	Fire may produce irritating, toxic and/or corrosive fumes, including Carbon monoxide, Carbon dioxide.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
Personal Protective Equipment	Wear self-contained breathing apparatus (SCBA) and chemical splash suit. SCBA and structural firefighter's uniform may provide limited protection.
Flash Point	>157 °C [Closed cup]
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	420 °C
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. ELIMINATE all ignition sources. Do not touch or walk through spilled material. Avoid breathing vapours and contact with eyes, skin and clothing.
Clean Up Procedures	Absorb with earth, sand or other non-combustible material and transfer to a suitable container for disposal (see SECTION 13).
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas.
Decontamination	No information available.
Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and watercourses.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8).

7. HANDLING AND STORAGE

Handling	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. Avoid breathing mist/vapours/spray and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). Combustible liquid: Keep away from heat and sources of ignition - No smoking.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed - Check regularly for leaks and spills. Protect containers from physical damage. Keep away from heat and sources of ignition - No smoking. Keep away from foodstuffs and incompatible materials (see SECTION 10). Store locked up.
Container	Keep in the original, glass, steel or plastic container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product.
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	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.
Personal Protection Equipment	<ul style="list-style-type: none"> - Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Organic vapour respirator (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Chemical splash goggles. - Hand protection: Wear protective gloves. Recommended: Chemical-resistant gloves, e.g. neoprene. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Impervious clothing and boots.
Special Hazards Precautions	No information available.
Work Hygienic Practices	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Take off contaminated clothing and wash before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Clear liquid
Odour	Faint odour
Colour	Colourless
pH	5.5 - 8 (1% aq.)
Vapour Pressure	<0.001 kPa (@ No Data Available)
Relative Vapour Density	>1 Air = 1
Boiling Point	No Data Available
Melting Point	No Data Available
Freezing Point	<-5 °C
Solubility	Soluble in water
Specific Gravity	1.03 +/- 0.01
Flash Point	>157 °C [Closed cup]
Auto Ignition Temp	420 °C
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
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 liquid; May burn but does not ignite readily.
Reactions That Release Gases or Vapours	Fire/decomposition may produce irritating, toxic and/or corrosive fumes, including Carbon monoxide, Carbon dioxide.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	No information available.
Chemical Stability	Stable at room temperature.
Conditions to Avoid	Keep away from heat and sources of ignition.
Materials to Avoid	Incompatible/reactive with strong acids and strong oxidising agents (nitrates, chlorine bleach, liquid chlorine, etc).
Hazardous Decomposition Products	Fire/decomposition may produce irritating, toxic and/or corrosive fumes, including Carbon monoxide, Carbon dioxide.
Hazardous Polymerisation	No information available.

11. TOXICOLOGICAL INFORMATION

General Information	<ul style="list-style-type: none"> - Acute toxicity: May be harmful if swallowed; May cause diarrhoea. - Skin corrosion/irritation: Causes skin irritation. - Eye damage/irritation: Causes serious eye irritation. - Respiratory/skin sensitisation: Generally not considered to have skin sensitisation potential [NICNAS]. - Germ cell mutagenicity: Not considered to be genotoxic [NICNAS]. - Carcinogenicity: Not considered to be carcinogenic [NICNAS]. - Reproductive toxicity: Suspected of damaging fertility or the unborn child. While Nonoxynol-9 is toxic to reproduction and this is expected to also apply to related NPEs, the effects appear to be specific to direct spermicidal use, which is not relevant to industrial uses of the chemical(s) [NICNAS]. - STOT (single exposure): No information available. - STOT (repeated exposure): Not considered to cause serious damage to health following repeated (oral) exposure [NICNAS]. - Aspiration toxicity: No information available.
Acute	
Ingestion	Acute toxicity (Oral): - LD50, Rat: >2,000 mg/kg [Supplier's SDS].
Other	Acute toxicity (Dermal): - LD50, Rabbit: 2,830 mg/kg [Supplier's SDS].
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Acute aquatic toxicity: - EC50, Fish (<i>Lepomis macrochirus</i> (Bluegill)): 1.3 mg/L (96 h) [Experimental; NICNAS]. - EC50, Algae (<i>Scenedesmus opoliensis</i> (Green algae)): 37.4 mg/L (5 d) Static [Experimental; NICNAS]. Chronic aquatic toxicity: - NOEC, Invertebrates (<i>Daphnia magna</i> (Water flea)): 1.0 mg/L (6 d) Prolonged study [Experimental; NICNAS]. - NOEC, Algae (<i>Pseudokirchneriella subcapitata</i> (Green algae)): 8.0 mg/L (96 h) [Experimental; NICNAS].
Persistence/Degradability	Nonylphenol ethoxylate undergoes substantial primary biodegradation, based on 96% degradation observed after 30 days; Degradants (nonylphenol mono- and di-ethoxylates, nonylphenoxy acetate and nonylphenol mono-ethoxyacetate) are much more persistent relative to their parent chemical(s), but they are expected to be ultimately biodegradable in the environment [NICNAS].
Mobility	Nonylphenol ethoxylates are readily sorbed to soil and sediment, which is expected to limit their potential to undergo long-range transport in the environment [NICNAS].
Environmental Fate	Toxic to aquatic life with long lasting effects - Prevent entry into drains and waterways.
Bioaccumulation Potential	Nonylphenol ethoxylates are surfactants and most surfactants tend to be retained on epithelial surfaces, rather than cross cellular membranes and bioaccumulate [NICNAS].
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of contents/container in accordance with local/regional/national regulations.
Special Precautions for Land Fill	No information available.

14. TRANSPORT INFORMATION**Land Transport (Australia)**

ADG Code

Proper Shipping Name	Nonylphenol, ethoxylate (5 EO)
Class	C2 Combustible Liquids - Flash Point >93°C, Closed Cup, Not Excluded Flammable
Subsidiary Risk(s)	No Data Available
EPG	47 Low To Moderate Hazard Substances
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	AU01
Comments	UN#3082: Not regulated as DG when transported by road or rail in packagings that do not incorporate a receptacle exceeding 500 kg(L) or IBCs.

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Nonylphenol ethoxylate)
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
EPG	47 Low To Moderate Hazard Substances
UN Number	3082
Hazchem	3Z
Pack Group	III
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Nonylphenol ethoxylate)
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
EPG	47 Low To Moderate Hazard Substances
UN Number	3082
Hazchem	3Z
Pack Group	III
Special Provision	No Data Available

Land Transport (Papua New Guinea)

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Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Nonylphenol ethoxylate)
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
EPG	47 Low To Moderate Hazard Substances
UN Number	3082
Hazchem	3Z
Pack Group	III
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Nonylphenol ethoxylate)
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
ERG	171 Substances (Low to Moderate Hazard)
UN Number	3082
Hazchem	3Z
Pack Group	III
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Nonylphenol ethoxylate)
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
UN Number	3082
Hazchem	3Z
Pack Group	III
Special Provision	No Data Available
EMS	F-A, S-F
Marine Pollutant	Yes

Air Transport

IATA DGR

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Nonylphenol ethoxylate)
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
UN Number	3082
Hazchem	3Z
Pack Group	III
Special Provision	No Data Available

National Transport Commission (Australia)

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

Dangerous Goods Classification	NOT 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 HSR003054

National/Regional Inventories

Australia (AIC)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	Not Determined
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

16. OTHER INFORMATION

Related Product Codes	SUFNOA2109, SUFNOA2110, SUFNOA2900, SUFNOA2910, SUFNOA3000, SUFNOA3003, SUFNOA3020, SUFNOA3030
Revision	4
Revision Date	01 Mar 2019
Key/Legend	<p>< Less Than</p> <p>> Greater Than</p> <p>AICS Australian Inventory of Chemical Substances</p> <p>atm Atmosphere</p> <p>CAS Chemical Abstracts Service (Registry Number)</p>

cm² Square Centimetres

CO₂ Carbon Dioxide

COD Chemical Oxygen Demand

deg C (°C) Degrees Celcius

EPA (New Zealand) Environmental Protection Authority of New Zealand

deg F (°F) Degrees Farenheit

g Grams

g/cm³ 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

inH₂O Inch of Water

K Kelvin

kg Kilogram

kg/m³ Kilograms per Cubic Metre

lb Pound

LC₅₀ LC stands for lethal concentration. LC₅₀ 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.

LD₅₀ LD stands for Lethal Dose. LD₅₀ 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

m³ Cubic Metre

mbar Millibar

mg Milligram

mg/24H Milligrams per 24 Hours

mg/kg Milligrams per Kilogram

mg/m³ Milligrams per Cubic Metre

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

mm Millimetre

mmH₂O Millimetres of Water

mPa.s Millipascals per Second

N/A Not Applicable

NIOSH National Institute for Occupational Safety and Health

NOHSC National Occupational Heath 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