

1. IDENTIFICATION

Product Name	Nonyl Phenol Ethoxylate 9 Mol
Other Names	2-(Nonylphenyl)-.omega.-hydroxypoly(oxy-1,2-ethanediyl); Ethoxylated nonylphenol; Glycols, polyethylene, mono (nonylphenyl) ether; Nonyl Phenol 9.5 moles EO; Nonylphenol, ethylene oxide, condensate; Nonylphenoxy polyethoxy ethanol; Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydroxy-; Polyethylene glycol, nonylphenyl ether
Uses	Used for oil formation flooding making oil production more efficient, for well drilling, in textile, pulp and paper, woodworking industry, as a component of coolants, hydraulic and other process fluids, in iron industry Non-recommended Usage Types: Legislation May not be placed on the market or used as a substance or constituent of preparations in concentrations equal or higher than 0,1 % by mass for the following purposes: (1) industrial and institutional cleaning except: controlled closed dry cleaning systems where the washing liquid is recycled or incinerated, cleaning systems with special treatment where the washing liquid is recycled or incinerated; (2) domestic cleaning; (3) textiles and leather processing except: processing with no release into waste water, systems with special treatment where the process water is pretreated to remove the organic fraction completely prior to biological waste water treatment (degreasing of sheepskin); (4) emulsifier in agricultural teat dips; (5) metal working except: uses in controlled closed systems where the washing liquid is recycled or incinerated; (6) manufacturing of pulp and paper; (7) cosmetic products;
Chemical Family	No Data Available
Chemical Formula	(C ₂ H ₄ O) _n C ₁₅ H ₂₄ O
Chemical Name	Nonyl Phenol Ethoxylate 9 Mol
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty 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



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 2
Serious Eye Damage/Irritation - Category 2A**Pictograms****Signal Word** Warning

Hazard Statements	H302	Harmful if swallowed.
	H315	Causes skin irritation.
	H319	Causes serious eye irritation.

Precautionary Statements	Prevention	P264	Wash exposed skin thoroughly after handling.
		P270	Do not eat, drink or smoke when using this product.
		P273	Avoid release to the environment.
	Response	P280	Wear protective gloves/protective clothing/eye protection/face protection.
		P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
		P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
		P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		P321	Specific treatment (see First Aid Measures on Safety Data Sheet).
		P330	Rinse mouth.
		P332 + P313	If skin irritation occurs: Get medical advice/attention.
	P337 + P313	If eye irritation persists: Get medical advice/attention.	
	Disposal	P362	Take off contaminated clothing and wash before reuse.
		P391	Collect spillage.
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 Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)**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
	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
Nonyl phenol Ethoxylate	No Data Available	9016-45-9	99.0 - 100.0 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Get medical aid.
Eye	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin	Flush skin with plenty of water for at least 15 minutes. Get medical aid. Before subsequent usage, wash the clothes.
Inhaled	If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. Get medical aid.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of patient. Request instructions from the Entoxication Control Center
Medical Conditions Aggravated by Exposure	No information available on medical conditions which are aggravated from exposure to this product.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, remove containers from the path of fire.
Flammability Conditions	Product is a combustible liquid.
Extinguishing Media	Alcohol resistant foam is the preferred fire fighting medium but, if it is not available, normal protein foam can be used.
Fire and Explosion Hazard	Product is a combustible liquid. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion.
Hazardous Products of Combustion	Carbon oxides and carbon dioxides. Heated product might decompose forming: carbon oxide. Carbon oxides reduce oxygen (O ₂) content in the air; they may have a toxic effect on the cells causing the cell respiration disturbance.
Special Fire Fighting Instructions	Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk. Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.
Personal Protective Equipment	Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves) or chemical splash suit.
Flash Point	>250 °C open cup
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	>=395 °C
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Eliminate all sources of ignition. Increase ventilation. Avoid walking through spilled product as it may be slippery. Stop leak if safe to do so. Use clean, non-sparking tools and equipment.
Clean Up Procedures	Soak up spilled product using absorbent non-combustible material such as sand or soil. Avoid using sawdust or cellulose. Once saturated, collect material and transfer to a suitable, labelled, dry, sealable container and hold for safe disposal.
Containment	Stop leak if safe to do so.
Decontamination	After the material is collected ventilate the zone and wash the contaminated area with water. Prevent from entering sewer/surface waters/ground waters and soil.
Environmental Precautionary Measures	Do not allow product to reach drains, sewers or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Authority.
Evacuation Criteria	Evacuate all unnecessary personnel.
Personal Precautionary Measures	Personnel involved in the clean up should wear full protective clothing as listed in section 8.

7. HANDLING AND STORAGE

Handling	Arrangement of supply-and-exhaust ventilation system and local ventilation. Use of pressure tight equipment for production. Equipment grounding is mandatory. Use of personal protection equipment. No mist or dust formation during handling. Reduction of product loss during transportation and storage, prevention from discharge to water bodies, sewage system. Elimination of open fire sources.
Storage	Store in a cool, dry, well-ventilated, fire-proof area. Keep containers tightly sealed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Ground and bond storage containers. Store away from incompatible materials as listed in section 10. The product is stored at the ambient temperature in the closed room. Storage is allowed in the open areas, protected from direct sun rays. Multiple product heating is allowed at temperature not exceeding 100 deg C. Storage together with oxidisers, acids and caustics is prohibited. This product has a UN classification of 3082 and a Dangerous Goods Class 9 (Miscellaneous) according to The Australian Code for the Transport of Dangerous Goods By Road and Rail. NOTE: This product is subject to special provision AU01 according to The ADG7. SP No. AU01 Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to this Code when transported by road or rail in; (a) packagings that do not incorporate a receptacle exceeding 500 kg(L); or (b) IBCs.
Container	Container type/packaging must comply with all applicable local legislation. Store in original packaging as approved by manufacturer. In steel containers under nitrogen under conditions excluding ingress of mechanical objects and moisture into the product. Packaging materials: - steel cisterns with heating jacket; - truck tanks; - steel barrels; - plastic barrels;

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No exposure standard has been established for this product by the Australian Safety and Compensation Council (ASCC).
Exposure Limits	No Data Available
Biological Limits	No information available on biological limit values for this product.
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. General explosion-proof ventilation to control the specified limit values of concentration in the air. Ensuring that the content of harmful substances is within permissible concentration limits by using supply-and-exhaust ventilation system in of the most contaminant air locations. Measure concentration of pollutants. Entry of product should not be allowed either to the sewage and waste water, or to the soil and ground water.
Personal Protection Equipment	RESPIRATOR: Not required under normal operating conditions. In case of emergency – use filter gas-mask, breathing

masks (AS1715/1716).
 EYES: Protective goggles when working in the open systems (AS1336/1337).
 HANDS: Oil-and-Petrol resistant gloves, gloves made of butyl rubber dispersal (AS2161).
 CLOTHING: Long-sleeved cotton clothing and safety footwear (AS3765/2210).

Work Hygienic Practices

Due to physical and chemical properties and low toxicity there is no hygienic regulations for the air exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid
Odour	Characteristic
Colour	Colorless to pale yellow
pH	No Data Available
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	No Data Available
Melting Point	No Data Available
Freezing Point	No Data Available
Solubility	Soluble in water
Specific Gravity	1.06
Flash Point	>250 °C open cup
Auto Ignition Temp	>=395 °C
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	>=1042 - <=1048 Kg/m3
Specific Heat	No Data Available
Molecular Weight	630 g/mol
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	Ignition temperature: min 250 Deg C Solidification Temperature: 3-8 Deg C
Potential for Dust Explosion	Product is a liquid.
Fast or Intensely Burning Characteristics	No Data Available
Flame Propagation or Burning Rate of Solid Materials	No Data Available
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No Data Available
Properties That May Initiate or Contribute to Fire Intensity	No Data Available
Reactions That Release Gases or Vapours	No Data Available

Release of Invisible Flammable Vapours and Gases No Data Available

10. STABILITY AND REACTIVITY

General Information Combustible liquid.

Chemical Stability Stable under ordinary conditions of use and storage. Darkens on exposure to air or light.

Conditions to Avoid Excess heat, confined spaces, ignition sources, moisture, incompatibles

Materials to Avoid Acids - acid chlorides - acid anhydrides - oxidizing agents.
Incompatibilities:
Copper, copper alloys, galvanized iron, acids, and oxidizers

Hazardous Decomposition Products Burning may produce carbon monoxide, carbon dioxide, nitrogen oxides.

Hazardous Polymerisation There is no dangerous polymerization.
Conditions resulting in dangerous reactions: Heating above 200 deg C.

11. TOXICOLOGICAL INFORMATION

General Information Acute oral toxicity : LD50 500-2,000 mg/kg [rat]
Acute inhalation toxicity : not tested
Skin irritation : Non irritating [rabbit]
Eye irritation : Severe irritant [rabbit]

EyeIrritant Irritant for eyes. Attributes and symptoms of eyes irritation include redness, lacrimation.

SkinIrritant Contact with skin will result in irritation. Will have a degreasing action on the skin. Repeated or prolonged skin contact may lead to irritant contact dermatitis

Ingestion Causes gastrointestinal tract burns. May be harmful if swallowed

Inhalation Breathing in mists or aerosols may produce respiratory irritation.

Carcinogen Category No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity Might accumulate in water course, soil and impact flora and fauna, in certain cases might lead to fish kill. Getting to water courses with ground waters, waste waters, containing neonols, slow down self-cleaning processes, aggravate organoleptic properties of water, have adverse impact on development of animals and plants, which inhabit water courses. Notwithstanding low toxicity of neonols, their presence in water courses above allowable concentration level might lead to fish intoxication as a result of substance accumulatuon in branchiaes and violation od gas exchange. Neonols are also hazardous for baby fish, eggs, aquatic microorganisms.

LC50 Fish (96 hours)
Minimum: 1,3 mg/l
Maximum: 7,9 mg/l
Median: 6 mg/l
Study number: 5
Reference: Swedmark, M., A. Granmo, and S. Kollberg 1973. Effects of Oil Dispersants and Oil Emulsions on Marine Animals. Water Res. 7(11):1649- 1672

LC50 Crustaceans (48 hours)
Minimum: 0,0026 mg/l
Maximum: 89,5 mg/l
Median: 11 mg/l
Study number: 9
Reference: Moore, S.B., R.A. Diehl, J.M. Barnhardt, and G.B. Avery 1987. Aquatic Toxicities of Textile Surfactants. Text.Chem.Color. 19(5):29-32

EC50 Crustaceans (48 hours)
Minimum: 14 mg/l
Maximum: 14 mg/l

Median: 14 mg/l
Study number: 1
Reference: Dorn, P.B., J.P. Salanitro, S.H. Evans, and L. Kravetz 1993. Assessing the Aquatic Hazard of Some Branched and Linear Nonionic Surfactants by Biodegradation and Toxicity. Environ.Toxicol.Chem. 12(10):1751-1762

Persistence/Degradability	Complete biological degradability less than 60%
Mobility	No Data Available
Environmental Fate	Remarks : Do not allow to enter soil, waterways or waste water.
Bioaccumulation Potential	Moderate bioaccumulation. Might accumulate in water course, soil and impact flora and fauna, in certain cases might lead to fish kill. PBT/vPvB Fail to meet the criteria
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of in accordance with all local, state and federal regulations. All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility as Hazardous waste.
Special Precautions for Land Fill	Contact a specialist disposal company or the local waste regulator for advice. Send polluted waste waters and washing waters to the concentration unit, thereafter deliver concentrated waters to incineration at the approved incinerator, and dispose of conventionally treated waters and partially send them to advanced treatment to the biological treatment plant.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	NONYL PHENOL ETHOXYLATE 9 MOL
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	SPAU01

Land Transport (Malaysia)

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Nonyl Phenol 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. (Nonyl Phenol Ethoxylate)
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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)

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NONYLPHENOL ETHOXYLATE 9 MOL)
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. (Nonyl Phenol 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. (Nonyl Phenol 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	FA,SF
Marine Pollutant	Yes

Air Transport

IATA DGR

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Nonyl Phenol 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	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
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National/Regional Inventories

Australia (AICS)	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)	Listed

16. OTHER INFORMATION

Related Product Codes	SUFNOB1000, SUFNOB1030, SUFNOB1500, SUFNOB2095, SUFNOB2195, SUFNOB5000, SUFNOB5001, SUFNOB5002, SUFNOB5100, SUFNOB5500, SUFNOB5501, SUFNOB5550, SUFNOB5555, SUFNOB6000, SUFNOB6100, SUFNOB6150, SUFNOB6151, SUFNOB6200, SUFNOB6300, SUFNOB7400, SUFNOB7500, SUFNOB7600, SUFNOB7700, SUFNOB9900
Revision	4
Revision Date	06 Jan 2015
Reason for Issue	Update sds
Key/Legend	<p>< Less Than > Greater Than AICS Australian Inventory of Chemical Substances atm Atmosphere CAS Chemical Abstracts Service (Registry Number) 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 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</p>