



SAFETY DATA SHEET DIISONONYL PHTHALATE (DINP) REVISION 3, DATE 11 APR 19

1. IDENTIFICATION

Product Name	Diisononyl phthalate (DINP)
Other Names	Diisononyl phthalate, branched [CAS#68515-48-0]
Uses	Low-volatility plasticizer; Plasticizers, adhesives, plastisols, nitrocellulose lacquer coatings; Plastics products such as vinyl swimming pool, vinyl seat (furniture and car) and clothing (jackets, raincoats, boots, etc).
Chemical Family	No Data Available
Chemical Formula	C ₂₆ H ₄₂ O ₄
Chemical Name	Diisononyl phthalate (DINP)
Product Description	High molecular weight phthalates (HMWP).

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

Redox Ltd
Corporate Office Sydney
Locked Bag 15 Minto NSW 2566 Australia
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All Deliveries: 4 Holmes Road Minto NSW 2566 Australia

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Australia
Adelaide
Brisbane
Melbourne
Perth
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New Zealand
Auckland
Christchurch
Hawke's Bay
UK
London

Malaysia
Kuala Lumpur
USA
Los Angeles
Oakland
Mexico
Saltillo



Globally Harmonised System

Hazard Classification	NOT hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)
Signal Word	None

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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3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Diisononyl phthalate (DINP)	C26H42O4	28553-12-0	<=100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth, then drink plenty of water. Do not induce vomiting unless directed to do so by medical personnel. Call a Poison Centre or doctor/physician for advice. Do not leave the victim unattended. Never give anything by mouth to an unconscious person.
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: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.
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. Keep victim calm and warm - Obtain immediate medical care.
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	May burn but does not ignite readily.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO2), foam or water spray for extinction - Do not use high volume water jet.
Fire and Explosion Hazard	Containers may explode when heated.

Hazardous Products of Combustion	Fire may produce irritating, toxic and/or corrosive fumes, including Carbon oxides, acrid smoke.
Special Fire Fighting Instructions	Prevent fire extinguishing water from contaminating surface water or the ground water system. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
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	approx. 200 °C
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
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	Prevent entry into soils, drains and waterways.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8). Large spill: Wear self-contained breathing apparatus (SCBA) and chemical splash suit.

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing mist/vapours/spray and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). Keep away from heat and sources of ignition - No smoking. Take precautionary measures against static discharge.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed; Protect against physical damage. Keep away from heat and sources of ignition - No smoking. Keep away from food containers and incompatible materials (see SECTION 10).
Container	Keep in the original or suitable container; Use metal drums. The material will corrode certain types of plastics.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No value assigned for this specific material by Safe Work Australia. - New Zealand WES for Diisononyl phthalate (CAS No. 28553-12-0): TWA = 5 mg/m ³ .
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: Wear respiratory protection in case that frequent use or exposure to high concentrations. Recommended: Respirator with organic vapour cartridge (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety goggles; face-shield, if the situation requires. - Hand protection: Handle with gloves. Recommended: Impervious gloves. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Impervious protective clothing; Protective boots, if the situation requires.
Special Hazards Precautions	No information available.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash hands before breaks and at the end of the workday. Take off contaminated clothing and wash before storage or reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Clear liquid (slightly viscous, oily)
Odour	Almost odourless
Colour	Colourless - yellowish
pH	No Data Available
Vapour Pressure	0.045 mmHg (@ 25 °C)
Relative Vapour Density	No Data Available
Boiling Point	252 °C (5 mmHg)
Melting Point	-48 °C
Freezing Point	No Data Available
Solubility	Insoluble in water (0.05 g/100 ml) - Soluble in acetone, methanol, benzene, ether
Specific Gravity	0.972 - 0.977
Flash Point	approx. 200 °C
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	0.972 - 0.977 g/cm ³
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	log Kow: 9.37
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	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 oxides, acrid smoke.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	The material will corrode certain types of plastics.
Chemical Stability	Stable under ordinary conditions of use and storage.
Conditions to Avoid	Keep away from heat and sources of ignition.
Materials to Avoid	Incompatible/reactive with strong oxidising agents, strong acids, strong bases, permanganate and nitrates.
Hazardous Decomposition Products	Fire/decomposition may produce irritating, toxic and/or corrosive fumes, including Carbon oxides, acrid smoke.
Hazardous Polymerisation	No information available.

11. TOXICOLOGICAL INFORMATION

General Information	<p>Information on possible routes of exposure:</p> <ul style="list-style-type: none">- Ingestion: Expected to have low acute oral toxicity.- Eye contact: Causes minimal eye irritation.- Skin contact: Expected to have low acute dermal toxicity. Causes minimal skin irritation. Not likely to be a skin sensitiser in humans.- Inhalation: Expected to have low acute inhalative toxicity. <p>Chronic effects: The critical health effects for risk characterisation include increased kidney and liver weights with histopathological changes in the liver of rodents (repeated dose toxicity); and reduced pup weight, testosterone and altered sexual differentiation (developmental and fertility-related toxicity). These effects were found to be less pronounced in dogs and primates. Therefore, they are considered indicative of adaptative effects or associated with the peroxisomal proliferation, which are not relevant to humans [NICNAS].</p>
Acute	
Ingestion	<p>Acute toxicity (Oral):</p> <ul style="list-style-type: none">- LD50, Rodents: >2,000 mg/kg bw.
Other	<p>Acute toxicity (Dermal):</p> <ul style="list-style-type: none">- LD50, Rodents: >2,000 mg/kg bw.
Inhalation	<p>Acute toxicity (Inhalation):</p> <ul style="list-style-type: none">- LC50, Rats: >4.4 mg/L (4 h) aerosol exposure (no mortalities).
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	The results of acute and chronic aquatic toxicity tests for DINP show that it does not cause any adverse effects in fish, invertebrates and algae, within the limits of water solubility [ECHA].
Persistence/Degradability	DINP is readily biodegradable and is not expected to persist in the environment.
Mobility	No information available.
Environmental Fate	Based on low solubility and the results of acute and chronic aquatic toxicity tests, DINP does not pose an unacceptable risk to the aquatic compartment.
Bioaccumulation Potential	DINP has a low potential to bioaccumulate in the environment.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Recycle to process, if possible; or dispose of contents/container in accordance with local/regional/national regulations.
Special Precautions for Land Fill	You may be able to burn in a chemical incinerator equipped with an afterburner and scrubber system.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code	
Proper Shipping Name	Diisononyl phthalate (DINP)
Class	C2 Combustible Liquids - Flash Point >93°C, Closed Cup, Not Excluded Flammable
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (Malaysia)

ADR Code	
Proper Shipping Name	Diisononyl phthalate (DINP)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (New Zealand)

NZS5433	
Proper Shipping Name	Diisononyl phthalate (DINP)

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Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (United States of America)

US DOT

Proper Shipping Name	Diisononyl phthalate (DINP)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Sea Transport

IMDG Code

Proper Shipping Name	Diisononyl phthalate (DINP)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	No
Comments	NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport

IATA DGR

Proper Shipping Name	Diisononyl phthalate (DINP)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for AIR transport.

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)

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

Not Assessed

National/Regional Inventories

Australia (AIIIC)

Listed

Canada (DSL)

Listed

Canada (NDSL)

Not Determined

China (IECSC)

Listed

Europe (EINECS)

Not Determined

Europe (REACH)

Not Determined

Japan (ENCS/METI)

Listed

Korea (KECI)

Listed

Malaysia (EHS Register)

Not Determined

New Zealand (NZIoC)

Not Determined

Philippines (PICCS)

Listed

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

DINOPB1000, DINOPB1200, DINOPB2450, DINOPB3500, DINOPB4000, DINOPB5000, DINOPB6200, DINOPB7000, DINOPH1000, DINOPH1001, DINOPH1200, DINOPH1250, DINOPH1260, DINOPH1270, DINOPH1500, DINOPH2000, DINOPH2100, DINOPH2450, DINOPH2455, DINOPH2500, DINOPH2501, DINOPH3000, DINOPH3001, DINOPH3010, DINOPH3020, DINOPH3021, DINOPH3500, DINOPH3550, DINOPH4000, DINOPH4500, DINOPH4800, DINOPH5000, DINOPH5001, DINOPH5002, DINOPH5500, DINOPH7000, DINOPH7010, DINOPH7050, DINOPH7051, DINOPH9200

Revision	3
Revision Date	11 Apr 2019
Reason for Issue	Updated SDS
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> <p>cm² Square Centimetres</p> <p>CO₂ Carbon Dioxide</p> <p>COD Chemical Oxygen Demand</p> <p>deg C (°C) Degrees Celcius</p> <p>EPA (New Zealand) Environmental Protection Authority of New Zealand</p> <p>deg F (°F) Degrees Farenheit</p> <p>g Grams</p> <p>g/cm³ Grams per Cubic Centimetre</p> <p>g/l Grams per Litre</p> <p>HSNO Hazardous Substance and New Organism</p> <p>IDLH Immediately Dangerous to Life and Health</p> <p>immiscible Liquids are insoluable in each other.</p> <p>inHg Inch of Mercury</p> <p>inH₂O Inch of Water</p> <p>K Kelvin</p> <p>kg Kilogram</p> <p>kg/m³ Kilograms per Cubic Metre</p> <p>lb Pound</p> <p>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.</p> <p>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.</p> <p>ltr or L Litre</p> <p>m³ Cubic Metre</p> <p>mbar Millibar</p> <p>mg Milligram</p> <p>mg/24H Milligrams per 24 Hours</p> <p>mg/kg Milligrams per Kilogram</p> <p>mg/m³ Milligrams per Cubic Metre</p> <p>Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present.</p> <p>mm Millimetre</p> <p>mmH₂O Millimetres of Water</p> <p>mPa.s Millipascals per Second</p> <p>N/A Not Applicable</p> <p>NIOSH National Institute for Occupational Safety and Health</p> <p>NOHSC National Occupational Heath and Safety Commission</p> <p>OECD Organisation for Economic Co-operation and Development</p> <p>Oz Ounce</p> <p>PEL Permissible Exposure Limit</p> <p>Pa Pascal</p> <p>ppb Parts per Billion</p> <p>ppm Parts per Million</p> <p>ppm/2h Parts per Million per 2 Hours</p> <p>ppm/6h Parts per Million per 6 Hours</p> <p>psi Pounds per Square Inch</p> <p>R Rankine</p> <p>RCP Reciprocal Calculation Procedure</p> <p>STEL Short Term Exposure Limit</p> <p>TLV Threshold Limit Value</p> <p>tne Tonne</p> <p>TWA Time Weighted Average</p> <p>ug/24H Micrograms per 24 Hours</p> <p>UN United Nations</p> <p>wt Weight</p>

