

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION

Product Name	Diisononyl Phthalate (DINP)
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

Supplier:	Zhejiang Tsingyan Chemical Co., Ltd.
Address:	No.558 Taikang Zhong Road, Shounan Street, Yinzhou District, Ningbo City, Zhejiang, China
Post code:	315100
E-mail:	info@tsingyanchem.com
Tel:	0086 15888110454

Emergency Contact Details

For emergency health, safety, and environmental information, calls 0086 15888110454

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust)	Not Scheduled
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Globally Harmonised System

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

National Guide for Classifying Hazardous Chemicals under the Model WHS Regulations

Hazard Classification	NOT hazardous according to the criteria of Safe Work Australia under Model WHS Regulations
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3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Diisononyl phthalate (DINP)	C ₂₆ H ₄₂ O ₄	28553-12-0	>=99.6%

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. Get medical advice/attention. 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 it 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. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.
Advice to Doctor	Treat symptomatically. *Most important symptoms and effects, both acute and delayed: None known.
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. Dike fire-control water for later disposal.
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. Do not scatter spilled material with high-pressure water streams.
Fire and Explosion Hazard	Containers may explode when heated.
Hazardous Products of Combustion	Fire may produce irritating and/or toxic gases, 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 positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.
Flash Point	>=210 °C [Closed cup]
Lower Explosion Limit	0.4 %
Upper Explosion Limit	2.9 %
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 mist/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 you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Dike far ahead of large spill for later disposal.

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).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation, especially in confined areas. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing mist/vapours 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 discharges.
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 Workplace Exposure Standard 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	- Respiratory protection: Wear respiratory protection in case that frequent use or exposure to high concentrations. Recommended: Organic vapour/particulate respirator (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 it before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Oily liquid
Odour	Odourless
Colour	Colourless to 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 (<0.01 g/100 ml @20°C) - Soluble in acetone, methanol, benzene, ether
Specific Gravity	0.972 - 0.977
Flash Point	>=210 °C [Closed cup]
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	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 and/or toxic gases, 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 and/or toxic gases, including Carbon oxides, acrid smoke.
Hazardous Polymerisation	No information available.

11. TOXICOLOGICAL INFORMATION

General Information	Information on likely routes of exposure: - Acute toxicity: Not classified. - Skin corrosion/irritation: DINP causes minimal skin irritation. - Serious eye damage/irritation: DINP causes minimal eye irritation. - Respiratory/skin sensitisation: Overall, DINP shows no or only minimal skin sensitisation potential. - Germ cell mutagenicity: DINP is not considered to be genotoxic. - Carcinogenicity: Overall, the available data do not indicate a carcinogenic potential in humans for DINP. Not listed as carcinogenic according to IARC.
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- Reproductive toxicity: Overall, the available human data do not provide sufficient evidence for a causal relationship between exposure to DINP and possible adverse health effects in humans. However, DINPs have exhibited adverse effects on the male reproductive system and sexual differentiation during development in a number of rodent studies and the reproductive and developmental toxicity effects of DINPs observed in animal studies are regarded as relevant to humans [NICNAS].
- STOT (single exposure): No information available.
- STOT (repeated exposure): Repeated oral exposure to DINPs caused adverse effects to the liver and kidneys of rodents, including increased organ weights, and biochemical and histopathological changes. These effects are considered indicative of adaptative effects or associated with the peroxisomal proliferation, which are not relevant to humans [NICNAS].
- Aspiration toxicity: No information available.

Information on possible routes of exposure:

- Ingestion: May cause gastrointestinal discomfort if consumed in large amounts.
- Eye contact: Not expected to cause eye irritation.
- Skin contact: Not expected to cause skin irritation.
- Inhalation: May cause irritation.

Chronic effects: The critical health effects for DINP include repeated dose toxicity (kidney and liver effects) and developmental and fertility-related toxicity.

Acute

Ingestion	Acute toxicity (Oral): - LD50, Rat: >10,000 mg/kg bw. [Supplier's SDS].
Other	Acute toxicity (Dermal): - LD50, Rabbit: >3,160 mg/kg bw.
Inhalation	Acute toxicity (Inhalation): - LC50, Rat: >4.4 mg/L air (4 h)
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

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.

Sea Transport

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

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.

15. REGULATORY INFORMATION

General Information	No Data Available
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16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Tsingyan Chemical and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.tsingyanchem.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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