Material Safety Data Sheet
Bis(2-propylheptyl) phthalate

Section 1 - Product Identification

Synonyms : Di(2-propylheptyl) phthalate (DPHP)
Molecular Weight : 446.672 g/mol
Chemical Formula : $C_{28}H_{46}O_4$
Company Identification : Tradeasia International Pte. Limited
Address : 133 Cecil Street # 12-03 Keck Seng Tower, Singapore
Tel: +65-6227 6365
Fax: +65-6225 6286
Email: contact@chemtradeasia.com

Relevant identified uses of the substance or mixture and uses advised against
Industrial - Manufacture of substances. Use as an intermediate, for polymer processing through compounding, calendering, spread coating, extrusion, injection moulding, low energy manipulations, for formulation of plastisol, for formulation of DPHP in dry blends and Laboratory chemicals.
Professional - Use for polymer processing through low energy manipulations.
Consumer - Use for service life, contained in articles and for service life, contained in medical devices.
Application – Plasticizer.
Uses advised against - in toys and childcare articles

Section 2 – Composition/Information on Ingredients

Chemical Name	EC No/CAS No	Purity, %
Bis(2-propylheptyl) phthalate DPHP	258-469-4 53306-54-0	100

Section 3 – Hazards Identification

3.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
This substance is not classified as dangerous according to regulation (EC) 1272/2008 [CLP]

3.2. Label elements

This substance is not classified as dangerous according to regulation (EC) 1272/2008 [CLP]

Symbols/Pictograms
Not applicable

Signal word
None

Hazard statements
Not applicable

Precautionary Statements
Not applicable

3.3. Other hazards
None known

Section 4 – First-Aid Measures

4.1. Description of first aid measures

Inhalation	First aid measures not required, but get fresh air for personal comfort.
Skin contact	Wash with plenty of water.
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids.
Ingestion	If a large quantity has been ingested or if you feel unwell, get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed
None known.

4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

Section 5 – Fire Fighting Measures

5.1. Extinguishing media
Suitable extinguishing media
Carbon dioxide (CO2). Water. Dry chemical. Foam. Use extinguishing agent suitable for type of surrounding fire**.**

Unsuitable extinguishing media
High volume water jet.

5.2. Special hazards arising from the substance or mixture
Thermal decomposition can lead to release of irritating and toxic gases and vapours; Carbon monoxide (CO). Carbon dioxide (CO2).

5.3. Advice for firefighters
In the event of fire, wear self-contained breathing apparatus.

Additional information
Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 6 – Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures
Wear safety glasses, gloves, protective clothing and rubber boots for hygienic reasons.

6.2. Environmental precautions
Do not allow into any sewer, on the ground or into any body of water. See Section 12 for additional ecological information.

6.3. Methods and material for containment and cleaning up

Methods for containment

Small spill Cover liquid spill with sand, earth or other noncombustible absorbent material
Large spill Pump up the product into a spare container suitably labelled.

Methods for cleaning up

Take up mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections

See Section 7,8,13 for more information.

Section 7 – Handling and Storage

7.1. Precautions for safe handling

Ensure adequate ventilation. Prevent electrostatic discharges.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Keep tightly closed in a dry and cool place.

7.3. Specific end use(s)

This information is supplied in the present Safety Data Sheet.

Section 8 – Exposure Controls/Personal Protection

8.1. Control parameters

Exposure Limits

Keep personal exposure levels below Derived No Effect Level (DNEL) and national exposure limit values (if existing).

Derived No Effect Level (DNEL) – worker

Bis(2-propylheptyl) phthalate DPHP (53306-54-0)			
Type	Exposure route	DNEL	Remarks
Chronic effects, systemic	Dermal	125	mg/kg bw/d
Chronic effects, systemic	Inhalation	35.3	mg/m^3
Chronic effects, local	Inhalation	5	mg/m^3

Derived No Effect Level (DNEL) - Consumer

Bis(2-propylheptyl) phthalate DPHP (53306-54-0)			
Type	Exposure route	DNEL	Remarks
Chronic effects, systemic	Oral	5	mg/kg bw/d
Chronic effects, systemic	Dermal	62.5	mg/kg bw/d
Chronic effects, systemic	Inhalation	8.7	mg/m^3
Chronic effects, local	Inhalation	1.25	mg/m^3

Predicted No Effect Concentration (PNEC) The test substance does not produce acute or chronic toxicity in freshwater aquatic organisms (fish, invertebrates, and an alga) within the range of water solubility.

Consequently, neither the NOEC nor the freshwater compartment PNEC values can be experimentally determined.

8.2. Exposure controls

Appropriate engineering controls
Ensure adequate ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection	If handled where risk of splashes may occur, use safety goggles.
Hand Protection	Protective gloves not really required. However, we recommend using protective gloves made of rubber. Butyl rubber. Chloroprene rubber, CR. Nitrile rubber, NBR.
Skin and body protection	Normal work clothes for the chemical industry (long legs and sleeves).
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls
Do not allow into any sewer, on the ground or into any body of water.

Additional information
Exposure scenarios are not available since not classified as dangerous for health or environment according to CLP Regulation (EC) No 1272/2008.

Section 9 – Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance
liquid
colourless

Odour	Slight
Odour threshold	Not applicable

Property	**Value**	**Remarks • Method**
pH		Neutral @20°C
Melting point / freezing point	-48 °C / -54 °F	pour point, DIN 3016
Boiling point / boiling range	252 - 253 °C / 486 - 487 °F	7 hPa, DIN 51751
Flash point	220 °C / 428 °F	CC (closed cup) ISO (ISO 2719:200)
Evaporation rate		No information available
Flammability (solid, gas)		Not applicable
Explosive limits		
Upper explosive limits		Not applicable
Lower explosive limits		Not applicable
Vapour pressure	0.0000037 Pa	@20 °C, EU Method A.4

Vapour density		No information available
Relative density	0.9624	OECD Test No. 109: Density of Liquids and Solids @ 20 °C
Water solubility	<0.1 µg/l	@ 25°C, EU Method A.6
Solubility(ies)		No information available
Partition coefficient	10.6 - 10.8	log Kow, Calculation method
Autoignition temperature	345 °C / 653 °F	DIN 51794
Decomposition temperature		No information available
Kinematic viscosity		No information available
Dynamic viscosity	115-130 mPa s	@ 20 °C
Explosive properties	Not explosive.	
Oxidising properties	Not oxidising.	
Density		No information available
Bulk density		No information available

9.2. Other information
No information available.

Section 10 – Stability and Reactivity

10.1. Reactivity
There exists no specific test data for this product. For further information, see the subsequent subsections of this chapter.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
None known.

10.4. Conditions to avoid
None under normal use conditions.

10.5. Incompatible materials
None known

10.6. Hazardous decomposition products
Thermal decomposition can lead to release of irritating and toxic gases and vapours; Carbon monoxide (CO), Carbon dioxide (CO2)

Section 11 – Toxicological Information

11.1. Information on toxicological effects

Information on likely routes of exposure
Inhalation. Dermal.

Symptoms related to the physical, chemical and toxicological characteristics
See Section 4 for more information.

Numerical measures of toxicity
Acute toxicity
Product does not present an acute toxicity hazard based on known or supplied information.

Bis(2-propylheptyl) phthalate DPHP (53306-54-0)				
Method	Species	Exposure route	Effective dose	Remarks
approx OECD Test No. 401: Acute Oral Toxicity	Rat	Oral	>5000	mg/kg LD50 (lethal dose)
approx OECD Test No. 402: Acute Dermal Toxicity	Rabbit	Dermal	>2000	mg/kg LD50 (lethal dose)
approx OECD Test No. 403: Acute Inhalation Toxicity	Rat	Inhalation	>20.5	mg/l LC50 1h

Skin corrosion/irritation
Non-irritating to the skin.

Bis(2-propylheptyl) phthalate DPHP (53306-54-0)			
Method	Species	Exposure route	Results:
OECD Test No. 404: Acute Dermal Irritation/Corrosion	Rabbit	Dermal	Non-irritating to the skin No classification according to GHS criteria.

Serious eye damage/eye irritation
No eye irritation.

Bis(2-propylheptyl) phthalate DPHP (53306-54-0)			
Method	Species	Exposure route	Results:
OECD Test No. 405: Acute Eye Irritation/Corrosion	Rabbit	Eye	The substance was non-irritant No classification according to GHS criteria.

Respiratory or skin sensitisation
No sensitising effects known.

Bis(2-propylheptyl) phthalate DPHP (53306-54-0)			
Method	Species	Exposure route	Results:
approx OECD Test No. 406: Skin Sensitisation	Guinea pig	Skin	Not a skin sensitiser

Germ cell mutagenicity
Not mutagenic.

Bis(2-propylheptyl) phthalate DPHP (53306-54-0)		
Method	Species	Results:
OECD Test No. 471: Bacterial Reverse Mutation Test	in vitro	Negative
OECD Test No. 473: In vitro Mammalian Chromosome Aberration Test	in vitro	Negative
OECD Test No. 476: In vitro Mammalian Cell Gene Mutation Test	in vitro	Negative
approx OECD Test No. 474: Mammalian Erythrocyte Micronucleus Test	Mouse	Negative read-across from supporting substance (structural analogue)

Carcinogenicity
There is no indication for any carcinogenic potential since all in vitro and in vivo mutagenicity studies are negative.

Reproductive toxicity
Is not considered hazardous to the reproduction.

Bis(2-propylheptyl) phthalate DPHP (53306-54-0)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 416: Two-Generation Reproduction Toxicity	Rat	Oral	40	mg/kg bw/d NOAEL systemic toxicity P0
OECD Test No. 416: Two-Generation Reproduction Toxicity	Rat	Oral	600	mg/kg bw/d NOAEL Effects on fertility P0,F1
OECD Test No. 414: Pre-natal Development Toxicity Study	Rat	Oral	200	mg/kg bw/d NOAEL maternal toxicity
OECD Test No. 414: Pre-natal Development Toxicity Study	Rat	Oral	1000	mg/kg bw/d NOAEL Teratogenicity

STOT - single exposure Target organ effects: None known
STOT - repeated exposure

Bis(2-propylheptyl) phthalate DPHP (53306-54-0)				
Method	Species	Exposure route	Effective dose	Remarks
OECD Test No. 408: Repeated Dose 90-Day Oral Toxicity Study in Rodents	Rat	Oral	39	mg/kg bw/d NOAEL Liver Effects
OECD Test No. 408: Repeated Dose 90-Day Oral Toxicity Study in Rodents	Rat	Oral	196	mg/kg bw/d NOAEL Other Adverse Effects

Aspiration hazard
No hazard identified.

Section 12 – Ecological Information

12.1. Toxicity
Low toxicity to aquatic organisms.

Bis(2-propylheptyl) phthalate DPHP (53306-54-0)					
Method	Species	Exposure route	Effective dose	Exposure time	Remarks
OECD Test No. 203: Fish, Acute Toxicity Test	Brachydanio rerio	Freshwater	>10000	96h	mg/l LC50 (lethal concentration)
Regulation (EC) No. 440/2008, Annex, C.2	Daphnia magna	Freshwater	>100	48h	mg/l EC50 (effective concentration)
Regulation (EC) No. 440/2008, Annex, C.3	Algae	Freshwater	>100	72h	mg/l EC50 (effective concentration)
OECD Test No. 211: Daphnia magna Reproduction Test	Daphnia magna	Freshwater	>1	21d	mg/l NOEC
Regulation (EC) No. 440/2008, Annex, C.11	Microorganisms in sewage treatment	Freshwater	>1000	3h	mg/l EC50 (effective concentration)

12.2. Persistence and degradability
Readily biodegradable

Bis(2-propylheptyl) phthalate DPHP (53306-54-0)			
Method	Value	Exposure time	Results:
OECD Test No. 301B: Ready Biodegradability: CO2 Evolution Test (TG 301 B)	80-90%	28d	Readily biodegradable

12.3. Bioaccumulative potential
Not likely to bioaccumulate

Chemical Name	**Partition coefficient**	**Bioconcentration factor (BCF)**
Bis(2-propylheptyl) phthalate DPHP	10.6-10.8	<14.4

12.4. Mobility in soil
After release, adsorbs onto soil.

Chemical Name	Log Koc
Bis(2-propylheptyl) phthalate DPHP	>5.6

12.5. Results of PBT and vPvB assessment
This substance does not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects
No information available.

Section 13 – Disposal Considerations

13.1. Waste treatment methods
Waste from residues/unused products
Disposal should be in accordance with applicable regional, national and local laws and regulations. Incinerate at a licensed installation.

Contaminated packaging
Thoroughly emptied and clean packaging may be recycled.

Waste codes / waste designations according to EWC / AVV
Waste from residues/unused products; 16 03 06.

Other Information
Waste codes should be assigned by the user based on the application for which the product was used.

Section 14 – Regulatory Information

14.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
International Regulations
Not applicable.

European Union

France
Occupational Illnesses (R-463-3, France) Not applicable

Germany
Water hazard class (WGK) slightly hazardous to water (WGK 1)

14.2. Chemical safety assessment
A Chemical Safety Assessment has been carried out for this substance.

Disclaimer
The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its accuracy, reliability or completeness. The conditions or methods of handling, storage use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the

handling, storage, use or disposal of the product. It is the user's responsibility to satisfy himself as to the suitableness and completeness of such information for his own particular use.
This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.