



Safety Data Sheet

HEMPPEL'S DIAMOND VARNISH 05149

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 453/2010 - New Zealand

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : HEMPEL'S DIAMOND VARNISH 05149
Product identity : 0514900000
Product type : polyurethane varnish (base for multi-component product)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Field of application : buildings and yacht. ships and shipyards.
Ready-for-use mixture : 05140 = 05149 2 vol. / 95370 1 vol.
Identified uses : Industrial applications, Professional applications, Used by spraying.

1.3 Details of the supplier of the safety data sheet

Company details :	Hempel (New Zealand) 163 Pilkington Road Auckland 1072 New Zealand Telephone number: +64 (0) 9 570 6654 Fax: +64 (0) 9 570 6634	Emergency telephone number Poisons Centre New Zealand: 0800 764 766 See section 4 First aid measures.
Date of Preparation :	19 May 2014	
Date of previous issue	No previous validation.	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

GHS Classification

FLAMMABLE LIQUIDS - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Narcotic effects] - Category 3

2.2 Label elements

Hazard pictograms :



Signal word : Warning
Hazard statements : Flammable liquid and vapor.
May cause drowsiness and dizziness.
Precautionary statements :
Prevention : Wear protective gloves. Wear eye or face protection. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid breathing vapor.
Response : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
Storage : Store locked up. Store in a well-ventilated place. Keep cool.
Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients : n-butyl acetate

2.3 Other hazards



SECTION 2: Hazards identification

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Product/ingredient name	Identifiers	%	GHS Classification
n-butyl acetate	123-86-4	25 - <35	FLAMMABLE LIQUIDS - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Narcotic effects] - Category 3
cyclohexanone	108-94-1	7 - <25	FLAMMABLE LIQUIDS - Category 3
derivative of benzotriazol		0.25 - <1	ACUTE TOXICITY: INHALATION - Category 4 SKIN SENSITIZATION - Category 1
bis (1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	41556-26-7	<0.25	AQUATIC TOXICITY (CHRONIC) - Category 2 SKIN SENSITIZATION - Category 1 AQUATIC TOXICITY (ACUTE) - Category 1 AQUATIC TOXICITY (CHRONIC) - Category 1

Occupational exposure limits, if available, are listed in Section 8.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

SECTION 4: First aid measures

4.1 Description of first aid measures

General :	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
	If breathing is irregular, drowsiness, loss of consciousness or cramps: Call 112 and give immediate treatment (first aid).
Eye contact :	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. In all cases of doubt, or when symptoms persist, seek medical attention.
Inhalation :	Remove to fresh air. Keep person warm and at rest. If unconscious, place in recovery position and seek medical advice.
Skin contact :	Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
Ingestion :	If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do not induce vomiting unless directed to do so by medical personnel. Lower the head so that vomit will not re-enter the mouth and throat.
Protection of first-aiders :	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact :	No known significant effects or critical hazards.
Inhalation :	Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness.
Skin contact :	Defatting to the skin. May cause skin dryness and irritation.
Ingestion :	Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

Eye contact :	No specific data.
Inhalation :	Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness



SECTION 4: First aid measures

Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Extinguishing media : Recommended: alcohol resistant foam, CO₂, powders, water spray.
Not to be used: waterjet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

Hazardous combustion products : Decomposition products may include the following materials: carbon oxides

5.3 Advice for firefighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Exclude sources of ignition and be aware of explosion hazard. Ventilate the area. Avoid breathing vapor or mist. Refer to protective measures listed in sections 7 and 8. No action shall be taken involving any personal risk or without suitable training. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

6.2 Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilled product.

6.4 Reference to other sections

See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.



SECTION 7: Handling and storage

7.1 Precautions for safe handling

Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapors in air and avoid vapor concentrations higher than the occupational exposure limits. In addition, the product should be used only in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. To dissipate static electricity during transfer, ground drum and connect to receiving container with bonding strap. No sparking tools should be used.

Avoid inhalation of vapour, dust and spray mist. Avoid contact with skin and eyes. Eating, drinking and smoking should be prohibited in area where this material is handled, stored and processed. Appropriate personal protective equipment: see Section 8. Always keep in containers made from the same material as the original one.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations for flammable liquids. Store in a cool, well-ventilated area away from incompatible materials and ignition sources. Keep out of the reach of children. Keep away from: Oxidizing agents, strong alkalis, strong acids. No smoking. Prevent unauthorized access. Containers that are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

See separate Product Data Sheet for recommendations or industrial sector specific solutions.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Product/ingredient name	Exposure limit values
n-butyl acetate	NZ OSH (New Zealand, 2/2013). WES-STEL: 950 mg/m ³ 15 minutes. WES-STEL: 200 ppm 15 minutes. WES-TWA: 713 mg/m ³ 8 hours. WES-TWA: 150 ppm 8 hours.
2-methoxy-1-methylethyl acetate	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 548 mg/m ³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 274 mg/m ³ 8 hours. TWA: 50 ppm 8 hours.
cyclohexanone	NZ OSH (New Zealand, 2/2013). Absorbed through skin. WES-TWA: 100 mg/m ³ 8 hours. WES-TWA: 25 ppm 8 hours.
xylene	NZ OSH (New Zealand, 2/2013). WES-TWA: 217 mg/m ³ 8 hours. WES-TWA: 50 ppm 8 hours.

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

8.2 Exposure controls

Appropriate engineering controls

Arrange sufficient ventilation by local exhaust ventilation and good general ventilation to keep the airborne concentrations of vapors or dust lowest possible and below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the workstation location.

Individual protection measures

General :

Gloves must be worn for all work that may result in soiling. Apron/coveralls/protective clothing must be worn when soiling is so great that regular work clothes do not adequately protect skin against contact with the product. Safety eyewear should be used when there is a likelihood of exposure.





SECTION 8: Exposure controls/personal protection

Hygiene measures :	Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day.
Eye/face protection :	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
Hand protection :	Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training. The quality of the chemical-resistant protective gloves must be chosen as a function of the specific workplace concentrations and quantity of hazardous substances.
	Since the actual work situation is unknown. Supplier of gloves should be contacted in order to find the appropriate type. Below listed glove(s) should be regarded as generic advice:
	Recommended: Silver Shield / 4H gloves, polyvinyl alcohol (PVA), Viton® May be used: butyl rubber, nitrile rubber, neoprene rubber Not recommended: natural rubber (latex), polyvinyl chloride (PVC)
Body protection :	Personal protective equipment for the body should be selected based on the task being performed and the risks involved handling this product. Wear suitable protective clothing. Always wear protective clothing when spraying.
Respiratory protection :	If working areas have insufficient ventilation: When the product is applied by means that will not generate an aerosol such as, brush or roller wear half or totally covering mask equipped with gas filter of type A, when grinding use particle filter of type P. When the product is applied by spraying and for continuous or prolonged work always wear an air-fed respirator e.g. hood with supply of fresh or compressed air or a full face, powered air purifying filter. Be sure to use an approved/certified respirator or equivalent.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state :	Liquid.
Odor :	Solvent-like
pH :	Testing not relevant or not possible due to nature of the product.
Melting point/freezing point :	-99°C This is based on data for the following ingredient: n-butyl acetate
Boiling point/boiling range :	Testing not relevant or not possible due to nature of the product.
Flash point :	Closed cup: 35°C (95°F)
Evaporation rate :	Testing not relevant or not possible due to nature of the product.
Flammability :	Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and oxidizing materials.
Lower and upper explosive (flammable) limits :	1.1 - 9.4 vol %
Vapor pressure :	0.01 kPa This is based on data for the following ingredient: polyester polyol
Vapor density :	Testing not relevant or not possible due to nature of the product.
Relative density :	1.033 g/cm³
Solubility(ies) :	Partially soluble in the following materials: cold water and hot water.
Partition coefficient (LogKow) :	Testing not relevant or not possible due to nature of the product.
Auto-ignition temperature :	Testing not relevant or not possible due to nature of the product.
Decomposition temperature :	Testing not relevant or not possible due to nature of the product.
Viscosity :	Testing not relevant or not possible due to nature of the product.
Explosive properties :	Slightly explosive in the presence of the following materials or conditions: open flames, sparks and static discharge.
Oxidizing properties :	Testing not relevant or not possible due to nature of the product.

9.2 Other information



SECTION 9: Physical and chemical properties

Solvent(s) % by weight :	Weighted average: 52 %
Water % by weight :	Weighted average: 0 %
VOC content :	538.4 g/l
VOC content, Ready-for-use mixture :	449.9 g/l
TOC Content :	Weighted average: 336 g/l
Solvent Gas :	Weighted average: 0.111 m ³ /l

SECTION 10: Stability and reactivity

10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability

The product is stable.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

10.5 Incompatible materials

Highly reactive or incompatible with the following materials: oxidizing materials.

10.6 Hazardous decomposition products

When exposed to high temperatures (i.e. in case of fire) harmful decomposition products may be formed:

Decomposition products may include the following materials: carbon oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Exposure to component solvent vapor concentrations may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Solvents may cause some of the above effects by absorption through the skin. Symptoms and signs include headaches, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. If splashed in the eyes, the liquid may cause irritation and reversible damage. Accidental swallowing may cause stomach pain. Chemical lung inflammation may occur if the product is taken into the lungs via vomiting.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
n-butyl acetate	LC50 Inhalation Vapor LD50 Dermal LD50 Oral	Rat Rabbit Rat	>21 mg/l >17600 mg/kg 10768 mg/kg	4 hours - -
2-methoxy-1-methylethyl acetate	LD50 Dermal LD50 Oral	Rabbit Rat	>5 g/kg 8532 mg/kg	- -
cyclohexanone	LC50 Inhalation Gas. LD50 Dermal LD50 Oral	Rat Rabbit Rat	8000 ppm 1 mL/kg 1800 mg/kg	4 hours - -
derivative of benzotriazol	LDLo Oral LD50 Dermal LD50 Oral	Rabbit Rat Rat	1600 mg/kg >2000 mg/kg >5000 mg/kg	- - -
bis (1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	LD50 Dermal LD50 Oral	Rat Rat	>2000 mg/kg >2000 mg/kg	- -

Acute toxicity estimates



SECTION 11: Toxicological information

Route	ATE value
Inhalation (gases)	96560 ppm

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure
n-butyl acetate	Skin - Moderate irritant Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams
2-methoxy-1-methylethyl acetate	Respiratory - Mild irritant Respiratory - Mild irritant	Rabbit	-	-
cyclohexanone	Eyes - Mild irritant Eyes - Severe irritant Skin - Mild irritant	Rabbit Human	- -	24 hours 250 Micrograms 48 hours 50 Percent

Sensitizer

Product/ingredient name	Route of exposure	Species	Result
derivative of benzotriazol bis (1,2,2,6, 6-pentamethyl-4-piperidyl) sebacate	skin skin	Guinea pig Guinea pig	Sensitizing Sensitizing

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
n-butyl acetate	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Not available.			

Aspiration hazard

Product/ingredient name	Result
Not available.	

Information on the likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential chronic health effects

Sensitization : Contains derivative of benzotriazol, bis (1,2,2,6,6-pentamethyl-4-piperidyl) sebacate. May produce an allergic reaction.

Other information : No additional known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Do not allow to enter drains or watercourses.

Product/ingredient name	Result	Species	Exposure
n-butyl acetate	Acute EC50 44 mg/l	Daphnia	48 hours
derivative of benzotriazol	Acute EC50 >9 mg/l	Algae	72 hours
	Acute LC50 4 mg/l	Daphnia	48 hours
bis (1,2,2,6, 6-pentamethyl-4-piperidyl) sebacate	Acute LC50 2.8 mg/l	Fish	96 hours
	Acute EC50 1.68 mg/l	Aquatic plants	72 hours
	Acute LC50 0.97 mg/l Fresh water	Fish - Lepomis macrochirus	96 hours

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
n-butyl acetate	-	90 % - Readily - 28 days	-	-



SECTION 12: Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
n-butyl acetate	-	-	Readily
2-methoxy-1-methylethyl acetate	-	-	Readily
derivative of benzotriazol	-	-	Not readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
n-butyl acetate	2.3	-	low
2-methoxy-1-methylethyl acetate	1.2	-	low
cyclohexanone	0.86	-	low

12.4 Mobility in soil

Soil/water partition coefficient

(K_{oc}) :

Mobility :

No known data available in our database.

No known data available in our database.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

The generation of waste should be avoided or minimized wherever possible.

Residues of the product is listed as hazardous waste. Dispose of according to all state and local applicable regulations.

Spillage, remains, discarded clothes and similar should be discarded in a fireproof container.

Packaging

The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14: Transport information

Transport may take place according to national regulation NZS for transport by road and train, IMDG for transport by sea, IATA for transport by air.

	14.1 UN no.	14.2 Proper shipping name	14.3 Transport hazard class(es)	14.4 PG*	14.5 Env* Additional information
NZS Class	UN1263	PAINT	3	III	No. <u>Hazchem code</u> 3Y
IMDG Class	UN1263	PAINT	3	III	No. <u>Emergency schedules</u> <u>(EmS)</u> F-E, S-E
IATA Class	UN1263	PAINT	3	III	No. -

PG* : Packing group

Env.* : Environmental hazards

14.6 Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.



SECTION 14: Transport information

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This material is classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001 and has been classified according to the Hazardous Substances (Classifications) Regulations 2001.

This material is classified as a dangerous good according to criteria in New Zealand Standard 5433:2007 Transport of Dangerous Goods on Land.

HSNO Classification

3.1 - FLAMMABLE LIQUIDS - Category C
6.1 - ACUTE TOXICITY: SKIN - Category E
6.3 - SKIN IRRITATION - Category B
6.4 - EYE IRRITATION - Category A (Irritant)
6.5 - SENSITIZATION - Category B (Skin)
6.8 - REPRODUCTIVE AND DEVELOPMENTAL TOXICITY [Fertility] - Category B
6.8 - REPRODUCTIVE AND DEVELOPMENTAL TOXICITY [Unborn child] - Category B
9.1 - AQUATIC ECOTOXICITY - Category D
9.2 - SOIL ECOTOXICITY - Category C

Safety, health and environmental regulations specific for the product :

No known specific national and/or regional regulations applicable to this product (including its ingredients).

HSNO Group Standard : HSR002662

HSNO Group Standard assinged are based upon the GHS Classification.

SECTION 16: Other information

 Indicates information that has changed from previously issued version.

Classification	Justification
FLAMMABLE LIQUIDS - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Narcotic effects] - Category 3	On basis of test data Calculation method

Notice to reader

The information contained in this safety data sheet is based on the present state of knowledge and EU and national legislation. It provides guidance on health, safety and environmental aspects for handling the product in a safe way and should not be construed as any guarantee of the technical preformance or suitability for particular applications.

It is always the duty of the user/employer to ascertain that the work is planned and carried out in accordance with the national regulations.