RESENE HYPERSHIELD H20 PART A
Resene Automotive & Light Industrial

Version No: **1.1**
Safety Data Sheet according to HSNO Regulations

Issue Date: **24/08/2020**
Print Date: **24/08/2020**
L.GHS.NZL.EN

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

Product Identifier

Product name	RESENE HYPERSHIELD H20 PART A
Synonyms	Not Available
Other means of identification	Not Available

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

Relevant identified uses	10696

Details of the supplier of the safety data sheet

Registered company name	**Resene Automotive & Light Industrial**
Address	32-50 Vogel Street Wellington Naenae 5011 New Zealand
Telephone	+64 4 5770500
Fax	+64 9 259 2737
Website	www.resene.co.nz
Email	advice@resene.co.nz

Emergency telephone number

Association / Organisation	**NZ POISONS (24hr 7 days)**	**CHEMWATCH EMERGENCY RESPONSE**
Emergency telephone numbers	**0800 764766**	**+61 2 9186 1132**
Other emergency telephone numbers	**0800 737363**	**+64 800 700 112**

Once connected and if the message is not in your prefered language then please dial 01

SECTION 2 Hazards identification

Classification of the substance or mixture

Classification [1]	Eye Irritation Category 2, Reproductive Toxicity Category 1, Skin Corrosion/Irritation Category 3
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI*
Determined by Chemwatch using GHS/HSNO criteria	6.3B, 6.4A, 6.8A

Label elements

Hazard pictogram(s)	
Signal word	**Danger**

Hazard statement(s)

H319	Causes serious eye irritation.
H360	May damage fertility or the unborn child.
H316	Causes mild skin irritation.

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: Get medical advice/ attention.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313	If skin irritation occurs: Get medical advice/attention.

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P337+P313	If eye irritation persists: Get medical advice/attention.

Precautionary statement(s) Storage

P405	Store locked up.

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures
Ingredients are required by the Hazard Substances (Safety Data Sheets) Notice 2017 to be identified:

Mixtures

CAS No	%[weight]	Name
71-36-3	1-5	n-butanol
872-50-4	1-5	N-methyl-2-pyrrolidone
34590-94-8	1-5	dipropylene glycol monomethyl ether

SECTION 4 First aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: ▸ Wash out immediately with fresh running water. ▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▸ Seek medical attention without delay if pain persists or recurs. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: ▸ Immediately remove all contaminated clothing, including footwear. ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in event of irritation.
Inhalation	▸ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▸ Other measures are usually unnecessary.
Ingestion	▸ Immediately give a glass of water. ▸ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Firefighting measures

Extinguishing media

▸ Water spray or fog.

Special hazards arising from the substrate or mixture

Fire Incompatibility	▸ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Advice for firefighters

Fire Fighting	▸ Alert Fire Brigade and tell them location and nature of hazard.
Fire/Explosion Hazard	The material is not readily combustible under normal condition. Burning release: carbon dioxide (CO_2) other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

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Methods and material for containment and cleaning up

Minor Spills	▸ Remove all ignition sources.
Major Spills	Moderate hazard.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	▸ Avoid unnecessary personal contact, including inhalation. ▸ **DO NOT** allow clothing wet with material to stay in contact with skin
Other information	▸ Store in original containers.

Conditions for safe storage, including any incompatibilities

Suitable container	▸ Packaging as recommended by manufacturer.
Storage incompatibility	▸ Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
New Zealand Workplace Exposure Standards (WES)	n-butanol	n-Butyl alcohol	Not Available	Not Available	50 ppm / 150 mg/m3	skin-Skin absorption
New Zealand Workplace Exposure Standards (WES)	N-methyl-2-pyrrolidone	1-Methyl-2-pyrrolidone	25 ppm / 103 mg/m3	309 mg/m3 / 75 ppm	Not Available	skin-Skin absorption
New Zealand Workplace Exposure Standards (WES)	dipropylene glycol monomethyl ether	Dipropylene glycol methyl ether	100 ppm / 606 mg/m3	909 mg/m3 / 150 ppm	Not Available	skin-Skin absorption

Emergency Limits

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
n-butanol	Butyl alcohol, n-; (n-Butanol)	60 ppm	800 ppm	8000** ppm
N-methyl-2-pyrrolidone	Methyl 2-pyrrolidinone, 1-; (N-Methylpyrrolidone)	30 ppm	32 ppm	190 ppm
dipropylene glycol monomethyl ether	Dipropylene glycol methyl ether	150 ppm	1700* ppm	9900** ppm

Ingredient	Original IDLH	Revised IDLH
n-butanol	1,400 ppm	Not Available
N-methyl-2-pyrrolidone	Not Available	Not Available
dipropylene glycol monomethyl ether	600 ppm	Not Available

MATERIAL DATA

for N-methyl-2-pyrrolidone (NMP):
Reports of skin and eye irritation and chronic headaches have been reported in workers exposed to 1-methyl-2-pyrrolidone.
for dipropylene glycol monomethyl ether:
The TLV-TWA and STEL recommendations were thought to be sufficiently low to prevent objectionable irritation and provide a considerable safety factor against CNS impairment.
For n-butanol:
Odour Threshold Value: 0.12-3.4 ppm (detection), 1.0-3.5 ppm (recognition)
NOTE: Detector tubes for n-butanol, measuring in excess of 5 ppm are commercially available.

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard.
Personal protection	
Eye and face protection	▸ Safety glasses with side shields.
Skin protection	See Hand protection below
Hands/feet protection	▸ Wear chemical protective gloves, e.g. PVC. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer.

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Body protection	Overalls
Respiratory protection	Not usually required. Where the concentration of vapours in the breathing zone approaches or exceeds the “Exposure Standards” respiratory protection is required. Type A Filter of sufficient capacity.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Clear to hazy colourless liquid

Physical state	Liquid	**Relative density (Water = 1)**	1.01-1.04
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	7-8	**Decomposition temperature**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	40-60
Initial boiling point and boiling range (°C)	100	**Molecular weight (g/mol)**	Not Available
Flash point (°C)	Not Available	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Available	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Available
Lower Explosive Limit (%)	Not Available	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	Not Available	**Gas group**	Not Available
Solubility in water	Miscible	**pH as a solution (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	123

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	Inhalation of high vapour concentrations of N-methyl-2-pyrrolidone (NMP) may produce mucous membrane irritation, headache, giddiness, mental confusion and nausea.
Ingestion	The material has **NOT** been classified by EC Directives or other classification systems as 'harmful by ingestion'.
Skin Contact	Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. Prolonged contact with N-methyl-2-pyrrolidone (NMP) reportedly causes severe dermatitis with redness, cracking, swelling, blisters and oedema. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects.
Eye	Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals. Direct contact with the liquid N-methyl-2-pyrrolidone (NMP) may produce painful burning or stinging of the eyes and lids, watering and inflammation of the conjunctiva and temporary corneal clouding.
Chronic	There is sufficient evidence to establish a causal relationship between human exposure to the material and subsequent developmental toxic effects in the off-spring. The teratogenic potential, subchronic and long term inhalation toxicity of N-methyl-2-pyrrolidone (NMP has been studied in rats. No evidence of nephrotoxicity was seen. No carcinogenic effects were observed.

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TOXICITY	IRRITATION
Not Available	Not Available

n-butanol

TOXICITY	IRRITATION
25 mg/kg[2]	Eye (human): 50 ppm - irritant
Dermal (rabbit) LD50: 3400 mg/kg[2]	Eye (rabbit): 1.6 mg-SEVERE
Inhalation (rat) LC50: 24 mg/l/4H[2]	Eye (rabbit): 24 mg/24h-SEVERE
Oral (hamster) LD50: =1200 mg/kg[2]	Eye: adverse effect observed (irreversible damage)[1]
Oral (rat) LD50: 790 mg/kg[2]	Skin (rabbit): 405 mg/24h-moderate
	Skin: adverse effect observed (irritating)[1]

N-methyl-2-pyrrolidone

TOXICITY	IRRITATION
=3084 mg/kg[2]	Eye (rabbit): 100 mg - moderate
=5000 mg/kg[2]	
2500-5000 mg/kg[2]	
Dermal (rabbit) LD50: 8000 mg/kg[2]	
Inhalation (rat) LC50: 8290.5297 mg/l/4H[2]	
Oral (rat) LD50: =4318 mg/kg[2]	
Oral (rat) LD50: 3914 mg/kg[2]	
Oral (rat) LD50: 4200 mg/kg[2]	

dipropylene glycol monomethyl ether

TOXICITY	IRRITATION
Oral (rat) LD50: 5135 mg/kg[2]	Eye (human): 8 mg - mild
	Eye (rabbit): 500 mg/24hr - mild
	Skin (rabbit): 238 mg - mild
	Skin (rabbit): 500 mg (open)-mild

Legend: *1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*

N-BUTANOL	The material may produce severe irritation to the eye causing pronounced inflammation. for n-butanol **Acute toxicity:** n-Butanol (BA) was only slightly toxic to experimental animals following acute oral, dermal, or inhalation exposure.
DIPROPYLENE GLYCOL MONOMETHYL ETHER	for propylene glycol ethers (PGEs): Typical propylene glycol ethers include propylene glycol n-butyl ether (PnB); dipropylene glycol n-butyl ether (DPnB); dipropylene glycol methyl ether acetate (DPMA); tripropylene glycol methyl ether (TPM). Testing of a wide variety of propylene glycol ethers Testing of a wide variety of propylene glycol ethers has shown that propylene glycol-based ethers are less toxic than some ethers of the ethylene series. The material may be irritating to the eye, with prolonged contact causing inflammation.
RESENE HYPERSHIELD H20 PART A & N-METHYL-2-PYRROLIDONE	for N-methyl-2-pyrrolidone (NMP): **Acute toxicity:** In rats, NMP is absorbed rapidly after inhalation, oral, and dermal administration, distributed throughout the organism, and eliminated mainly by hydroxylation to polar compounds, which are excreted via urine.
N-BUTANOL & N-METHYL-2-PYRROLIDONE & DIPROPYLENE GLYCOL MONOMETHYL ETHER	Asthma-like symptoms may continue for months or even years after exposure to the material ceases.
N-BUTANOL & DIPROPYLENE GLYCOL MONOMETHYL ETHER	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic).

Acute Toxicity	✗	**Carcinogenicity**	✗
Skin Irritation/Corrosion	✓	**Reproductivity**	✓
Serious Eye Damage/Irritation	✓	**STOT - Single Exposure**	✗
Respiratory or Skin sensitisation	✗	**STOT - Repeated Exposure**	✗
Mutagenicity	✗	**Aspiration Hazard**	✗

Legend: ✗ *– Data either not available or does not fill the criteria for classification*
✓ *– Data available to make classification*

SECTION 12 Ecological information

Toxicity

Continued...

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Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

n-butanol

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	1-376mg/L	2
EC50	48	Crustacea	1-328mg/L	2
EC50	96	Algae or other aquatic plants	225mg/L	2
EC0	48	Crustacea	1-260mg/L	2
NOEC	504	Crustacea	4.1mg/L	2

N-methyl-2-pyrrolidone

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	464mg/L	1
EC50	48	Crustacea	ca.4897mg/L	1
EC50	72	Algae or other aquatic plants	>500mg/L	2
EC0	24	Crustacea	>1-mg/L	2
NOEC	504	Crustacea	12.5mg/L	2

dipropylene glycol monomethyl ether

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	1-mg/L	2
EC50	48	Crustacea	1-930mg/L	2
EC50	72	Algae or other aquatic plants	6-999mg/L	2
NOEC	528	Crustacea	>=0.5mg/L	2

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

for N-methyl-2-pyrrolidinone (NMP):
log Kow : -0.44-0.1
Environmental Fate
NMP may enter the environment as emissions to the atmosphere, as the substance is volatile and widely used as a solvent, or it may be released to water as a component of municipal and industrial wastewaters.
DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
n-butanol	LOW (Half-life = 54 days)	LOW (Half-life = 3.65 days)
N-methyl-2-pyrrolidone	LOW	LOW
dipropylene glycol monomethyl ether	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
n-butanol	LOW (BCF = 0.64)
N-methyl-2-pyrrolidone	LOW (BCF = 0.16)
dipropylene glycol monomethyl ether	LOW (BCF = 100)

Mobility in soil

Ingredient	Mobility
n-butanol	MEDIUM (KOC = 2.443)
N-methyl-2-pyrrolidone	LOW (KOC = 20.94)
dipropylene glycol monomethyl ether	LOW (KOC = 10)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	▸ Containers may still present a chemical hazard/ danger when empty. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. ▸ **DO NOT** allow wash water from cleaning or process equipment to enter drains.

Continued...

	▸ Recycle wherever possible or consult manufacturer for recycling options. Consult manufacturer for recycling option. Resene Paintwise accepts residual unwanted paint and packaging. See Resene website for Paintwise information. Or contact a Local Authority for the disposal information. Do not discharge the substance into the environment.

Ensure that the hazardous substance is disposed in accordance with the Hazardous Substances (Disposal) Notice 2017

Disposal Requirements

Packages that have been in direct contact with the hazardous substance must be only disposed if the hazardous substance was appropriately removed and cleaned out from the package.
The package must be disposed according to the manufacturer's directions taking into account the material it is made of. Packages which hazardous content have been appropriately treated and removed may be recycled.
The hazardous substance must only be disposed if it has been treated by a method that changed the characteristics or composition of the substance and it is no longer hazardous.

SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (UN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 Regulatory information

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

This substance is to be managed using the conditions specified in an applicable Group Standard

HSR Number	Group Standard
HSR002670	Surface Coatings and Colourants (Subsidiary Hazard) Group Standard 2017

n-butanol is found on the following regulatory lists

New Zealand Approved Hazardous Substances with controls
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data
New Zealand Inventory of Chemicals (NZIoC)
New Zealand Workplace Exposure Standards (WES)

N-methyl-2-pyrrolidone is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
New Zealand Approved Hazardous Substances with controls
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data
New Zealand Inventory of Chemicals (NZIoC)
New Zealand Workplace Exposure Standards (WES)

dipropylene glycol monomethyl ether is found on the following regulatory lists

New Zealand Approved Hazardous Substances with controls
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data
New Zealand Inventory of Chemicals (NZIoC)
New Zealand Workplace Exposure Standards (WES)

Hazardous Substance Location

Subject to the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Hazard Class	Quantity (Closed Containers)	Quantity (Open Containers)
Not Applicable	Not Applicable	Not Applicable

Certified Handler

Subject to Part 4 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Class of substance	Quantities
Not Applicable	Not Applicable

Refer Group Standards for further information

Tracking Requirements

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC	Yes

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National Inventory	Status
New Zealand - NZIoC	Yes
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)*

SECTION 16 Other information

Revision Date	24/08/2020
Initial Date	21/08/2020

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.
The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit。
IDLH: Immediately Dangerous to Life or Health Concentrations
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index

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end of SDS