Safety Data Sheet
NOVACOTE NC-272-A PS
Safety Data Sheet dated: 4/11/2017 - version 1
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SECTION 1: Identification

Product Identifier

Mixture identification:

Trade name: NOVACOTE NC-272-A PS
Trade code: NOVACOTE NC-272-A PS
Registration Number N/A

Recommended use of the chemical and restrictions on use

Recommended use: polyurethane prepolymer
Uses advised against: N.A.

Supplier's details

Company: COIM Asia Pacific Pte Ltd
10 Seraya Place
Singapore 627843
Tel: +65 68967068
Fax: +65 68967065

Emergency phone number

+65 68967068 (24hrs)

SECTION 2:Hazards identification

Classification of the substance or mixture

Flam. Liq. 2	Highly flammable liquid and vapour.
Eye Irrit. 2A	Causes serious eye irritation.
STOT SE 3	May cause drowsiness or dizziness.
Carc. 2	Suspected of causing cancer.
Skin Sens. 1	May cause an allergic skin reaction.
Resp. Sens. 1	May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Adverse physicochemical, human health and environmental effects:
No other hazards

GHS label elements, including precautionary statements

Pictograms and Signal Words

Danger

Hazard statements:

H225	Highly flammable liquid and vapour.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H336	May cause drowsiness or dizziness.
H351.1	Suspected of causing cancer.

Precautionary statements:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor/…
P370+P378.B	In case of fire: Use a dry powder fire extinguisher to extinguish.

Other hazards which do not result in a classification

Other Hazards: No other hazards

SECTION 3:Composition/information on ingredients

Substances

N.A.

Mixtures

Mixture identification: NOVACOTE NC-272-A PS

Hazardous components within the meaning of Singapore GHS and related classification:

Quantity	Name	Ident. Numb.
25-35 %	Ethyl acetate	CAS:141-78-6 EC:205-500-4 Index:607-022-00-5
1-5 %	4,4'-Methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate;	CAS:101-68-8 EC:202-966-0 Index:615-005-00-9

SECTION 4: First-aid measures

Description of necessary first-aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

Wash thoroughly the body (shower or bath).

Remove contaminated clothing immediately and dispose off safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eye contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and label hazardous.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

Most important symptoms/effects, acute and delayed

Eye irritation

Eye damages

Indication of immediate medical attention and special treatment needed, if necessary

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). See also SECTION 11 for any additional information about the contents.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Unsuitable extinguishing media:

Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the chemical

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

Hazardous combustion products: N.A.

Explosive properties: N.A.

Oxidizing properties: N.A.

Special protective actions for fire-fighters

Fire-fighters should wear positive pressure self-contained breathing apparatus and personal protective equipments, such as jacket (standard: EN469), helmet (standard: EN443), gloves (standard: EN407), boots (standard: EN345-S3 HI WRU HRO).

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove all sources of ignition.

Remove persons to safety.

See protective measures under point 7 and 8.

Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorb with inert, absorbent material.

Methods and material for containment and cleaning up

Suitable material for taking up: absorb with inert, absorbent material.

In case of heavy spills: wash with plenty of water.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid contact with skin and eyes, inhaltion of vapours and mists.

Exercise the greatest care when handling or opening the container.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contamined clothing should be changed before entering eating areas.

Do not eat or drink or smoke while working.

See also section 8 for recommended protective equipment.

Conditions for safe storage, including any incompatibilities

Store in a cool local.

Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

Incompatible materials:

See Section 10.

Instructions as regards storage premises:

Cool, dry and adequately ventilated.

SECTION 8: Exposure controls/personal protection

Control parameters

List of components with OEL value

Component	OEL Type	Country	Ceiling	Long Term mg/m3	Long Term ppm	Short Term mg/m3	Short Term ppm	Behaviour	Note
Ethyl acetate	ACGIH	ITALY			400				
	NATIONAL	DENMARK		540.000	150.000	1080.000	300.000		
	NATIONAL	FRANCE		1400.000	400.000				VLE
	NATIONAL	GERMANY		1500.000	400.000	3000.000	800.000		AGW, MAK
	NATIONAL	UNITED KINGDOM		730.000	200.000	1460.000	400.000		WEL
	NATIONAL	AUSTRALIA		720.000	200.000	1440.000	400.000		SWA
	NATIONAL	AUSTRIA		1050.000	300.000	2100.000	600.000		MAK, TRK
	NATIONAL	BELGIUM		1461.000	400.000				VLEP, GWBB
	NATIONAL	FINLAND		1100.000	300.000	1800.000	500.000		
	NATIONAL	HUNGARY		1400.000		1400.000			AK
	NATIONAL	IRELAND			200.000		400.000		
	NATIONAL	LATVIA		200.000					
	NATIONAL	POLAND		200.000		600.000			NDS
	NATIONAL	SPAIN		1460.000	400.000				VLA
	NATIONAL	SWEDEN		500.000	150.000	1100.000	300.000		
	NATIONAL	SWITZERLAND		1400.000	400.000	2800.000	800.000		
4,4'-Methylenediphenyl diisocyanate; diphenylmethane-4, 4'-diisocyanate;	ACGIH				0.005				
	NATIONAL	AUSTRIA		0.050	0.005	0.100	0.010		MAK, TRK
	NATIONAL	BELGIUM		0.052	0.005				VLEP/GWBB
	NATIONAL	DENMARK		0.050	0.005	0.100	0.010		
	NATIONAL	FRANCE		0.100	0.010	0.200	0.020		VLE

NATIONAL	GERMANY	0.050		0.050		AGW(TRGS9
NATIONAL	HUNGARY	0.050		0.050		AK
NATIONAL	IRELAND	0.020		0.070		
NATIONAL	POLAND	0.050		0.200		NDS
NATIONAL	SPAIN	0.052	0.005			VLA
NATIONAL	SWEDEN	0.030	0.002	0.050	0.005	

Predicted No Effect Concentration (PNEC) values

Component	CAS-No.	PNEC LIMIT	Exposure Route	Exposure Frequency	Remark
Ethyl acetate	141-78-6	0.260 mg/l	Fresh Water		
		0.026 mg/l	Marine water		
		0.340 mg/kg	Freshwater sediments		
		0.034 mg/kg	Marine water sediments		
		0.220 mg/kg	Soil (agricultural)		
		650.000 mg/l			STP
4,4'-Methylenediphenyl diisocyanate; diphenylmethane-4, 4'-diisocyanate;	101-68-8	1.000 mg/l	Fresh Water		
		0.100 mg/l	Marine water		
		1.000 mg/kg	Soil (agricultural)		
		1.000 mg/l			STP

Derived No Effect Level. (DNEL)

Component	CAS-No.	Worker Industry	Worker Professional	Consumer	Exposure Route	Exposure Frequency	Remark
Ethyl acetate	141-78-6	1468.000 mg/m3		734.000 mg/m3	Human Inhalation	Short Term, systemic effects	
		63.000 mg/kg		37.000 mg/kg	Human Dermal	Long Term, systemic effects	
		734.000 mg/m3		367.000 mg/m3	Human Inhalation	Long Term, systemic effects	
				4.500 mg/kg	Human Oral	Long Term, systemic effects	
4,4'-Methylenediphenyl diisocyanate; diphenylmethane-4, 4'-diisocyanate;	101-68-8	28.700			Human Dermal	Short Term, local effects	mg/cm2
		0.100 mg/m3			Human Inhalation	Short Term, local effects	
		0.050 mg/m3			Human Inhalation	Long Term, systemic effects	
		0.050 mg/m3			Human Inhalation	Long Term, local effects	

Appropriate engineering controls

N.A.

Individual protection measures, such as personal protective equipment (PPE)

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber (EN374).

Respiratory protection:

Use adequate protective respiratory equipment (EN529).

SECTION 9: Physical and chemical properties

Physical State: Liquid

Appearance and colour: colourless to pale yellow

Odour: smell of solvents

Odour threshold: N.A.

pH: N.A.

Melting point / freezing point: N.A.

Initial boiling point and boiling range: 77 °C (171 °F) Notes: 1013 hPa

Flash point: -4 °C (25 °F) Closed cup

Evaporation rate: N.A.
Flammability (Solid, Gas) N.A.
Upper/lower flammability or explosive limits: 12.80 (UEL) 2.00 (LEL)
Vapour pressure: 10kPa (20°C)
Vapour density (air = 1): N.A.
Density: 1.08 g/ml Notes: (20°C)
Solubility in water: N.A.
Solubility in oil: N.A.
Partition coefficient (n-octanol/water): N.A.
Auto-ignition temperature: N.A.
Decomposition temperature: N.A.
Viscosity: 1800-4000cPs at 25°C

Other information

Substance Groups relevant properties N.A.
Miscibility: N.A.
Conductivity: N.A.

SECTION 10: Stability and reactivity

Reactivity

Stable under normal conditions.

Chemical stability

Data not Available.

Possibility of hazardous reactions

It may generate flammable gases on contact with elementary metals (alkalis and alkaline earth, alloys in powder or vapours) and powerful reducing agents.
It may generate toxic gases on contact with oxidising mineral acids, and powerful oxidising agents.
It may catch fire on contact with oxidising mineral acids, and powerful oxidising agents.
Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid

Stable under normal conditions.

Incompatible materials

Avoid contact with oxidizing materials. The product could catch fire.

Hazardous decomposition products

SECTION 11: Toxicological information

Information on toxicological effects

Toxicological information of the mixture:

There is no toxicological data available on the mixture. Consider the individual concentration of each component to assess toxicological effects resulting from exposure to the mixture.

Toxicological information on main components of the mixture:

Ethyl acetate	Generic information:	Treatment: if swallowed, it is recommended the administration of activated charcoal and a saline laxative.
		Treatment: in the case of lung irritation, first treatment with Junik aerosol (spray) (beclomethasone dipropionate).
	a) acute toxicity	LD50 Oral Rabbit 4934.00000 mg/kg
		LC50 Inhalation Vapour Rat > 29.20000 mg/l 4h
		LD50 Skin Rabbit > 20000.00000 mg/kg
4,4'-Methylenediphenyl diisocyanate; diphenylmethane-4, 4'-diisocyanate;	Generic information:	Treatment: treat according to symptoms (decontamination, vital functions), no known specific antidote, administer corticosteroid dose aerosol to prevent pulmonary edema.
		Notes to physician: The product irritates the respiratory tract and may trigger sensitisation of the skin and respiratory tract. Treatment of acute irritation or bronchial constriction is primarily symptomatic. Extended medical treatment may be required depending on the degree of exposure and the severity of the symptoms.
	a) acute toxicity	LD50 Oral Rat > 2000.00000 mg/kg
		LD50 Skin Rabbit > 9400.00000 mg/kg
		LC50 Inhalation of aerosol Rat 368.00000 mg/m3 4h

If not differently specified, the information required in the regulation and listed below must be considered as N.A.

a) acute toxicity

b) skin corrosion/irritation

c) serious eye damage/irritation

d) respiratory or skin sensitisation

e) germ cell mutagenicity

f) carcinogenicity

g) reproductive toxicity

h) STOT-single exposure

i) STOT-repeated exposure

j) aspiration hazard

SECTION 12: Ecological information

Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

List of components with eco-toxicological properties

Component	Ident. Numb.	Ecotox Infos
Ethyl acetate	CAS: 141-78-6 - EINECS: 205-500-4 - 67-548-EC: 607-022-00-5	a) Aquatic acute toxicity : LC50 Fish Pimephales promelas 230 mg/L 96h
		LC50 Fish Oncorhyncus mykiss 484.00000 mg/L 96h
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia cucullata 100.00000 mg/L 48h
		a) Aquatic acute toxicity : EC50 Algae Scenedesmus subspicatus 5600.00000 mg/L
		a) Aquatic acute toxicity : NOEC Scenedesmus subspicatus < 100.00000 mg/L 72h
Ethyl acetate	CAS: 141-78-6 - EINECS: 205-500-4 - 67-548-EC: 607-022-00-5	#BCF = 30
4,4'-Methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate;	CAS: 101-68-8 - EINECS: 202-966-0 - 67-548-EC: 615-005-00-9	a) Aquatic acute toxicity : LC50 Fish Danio rerio, static > 1000.00000 mg/L 96h
		a) Aquatic acute toxicity : EC50 Daphnia static > 1000.00000 mg/L - 24 h
		a) Aquatic acute toxicity : IC50 Algae Scenedesmus Subspicatus > 1640.00000 mg/L 72h
		a) Aquatic acute toxicity : EC50 activated sludge > 100.00000 mg/L - 3 h
		a) Aquatic acute toxicity : LC50 Worm Eisenia Fetida 1000.00000 mg/L - 14 h

Persistence and degradability

Component	Persitence/Degradability:
Ethyl acetate	Readily biodegradable
4,4'-Methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate;	Non-readily biodegradable

Bioaccumulative potential

N.A.

Mobility in soil

N.A.

Other adverse effects

N.A.

SECTION 13: Disposal considerations

Disposal methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information

UN number

1866

UN proper shipping name

ADR-Shipping Name: RESIN SOLUTION

IATA-Technical name: RESIN SOLUTION flammable

IMDG-Technical name: RESIN SOLUTION flammable

Transport hazard class(es)

ADR-Class: 3

IATA-Class: 3

IMDG-Class: 3

Packing group, if applicable

ADR-Packing Group: II

IATA-Packing group: II

IMDG-Packing group: II

Environmental hazards

Marine pollutant: No

Environmental Pollutant: No

Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: 3

ADR - Hazard identification number: 33

ADR-Special Provisions: 640D

ADR-Transport category (Tunnel restriction code): 2 (D/E)

Air (IATA):

IATA-Passenger Aircraft: 353

IATA-Cargo Aircraft: 364

IATA-Label: 3

IATA-Subrisk: -

IATA-Erg: 3L

IATA-Special Provisions: A3

Sea (IMDG):

IMDG-Stowage Code: Category B

IMDG-Stowage Note: -

IMDG-Subrisk: -

IMDG-Special Provisions: -

IMDG-Page: N/A

IMDG-Label: N/A

IMDG-EMS: F-E, S-E

IMDG-MFAG: N/A

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

N.A.

SECTION 15: Safety, health and environmental regulations specific for the product in question

This Safety Data Sheet has been prepared according to:

SS 586 : Part 1 (2014)

SS 586 : Part 2 (2014)

SS 586 : Part 3 (2014)

SECTION 16: Other information

Code	Description
H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H336H336	H336H336
H351.1	Suspected of causing cancer.
H373.2	May cause damage to organs through prolonged or repeated exposure.

Key/legend to the abbreviations and acronyms

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ATE: Acute Toxicity Estimate
BCF: Biological Concentration Factor
BEI: Biological Exposure Index
BOD: Biochemical Oxygen Demand
CAS: Chemical Abstracts Service (division of the American Chemical Society).
CAV: Poison Center
CE: European Community
CLP: Classification, Labeling, Packaging.
CMR: Carcinogenic, Mutagenic and Reprotoxic
COD: Chemical Oxygen Demand
COV: Volatile Organic Compound
CSA: Chemical Safety Assessment
CSR: Chemical Safety Report
DMEL: Derived Minimal Effect Level
DNEL: Derived No Effect Level.
DPD: Dangerous Preparations Directive
DSD: Dangerous Substances Directive
EC50: Half Maximal Effective Concentration
ECHA: European Chemicals Agency
EINECS: European Inventory of Existing Commercial Chemical Substances.
ES: Exposure Scenario
GefStoffVO: Ordinance on Hazardous Substances, Germany.
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
IC50: half maximal inhibitory concentration
ICAO: International Civil Aviation Organization.
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG: International Maritime Code for Dangerous Goods.
INCI: International Nomenclature of Cosmetic Ingredients.
IRCCS: Instituto de Hospitalización y Asistencia de Carácter Científico
KAFH: Keep away from heat
KSt: Explosion coefficient.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
LDLo: Leathal Dose Low
N.A.: Not Applicable
N/A: Not Applicable
N/D: Not defined/ Not available
NA: Not available
NEN1: ND: National emergency telephone number: not available
NEN2: ND: National emergency telephone number: not available
NEN3: ND: National emergency telephone number: not available
NIOSH: National Institute for Occupational Safety and Health
NOAEL: No Observed Adverse Effect Level
NOEC: No Observed Effect Concentration
OSHA: Occupational Safety and Health Administration.
PBT: Persistent, Bioaccumulative and Toxic
PGK: Packaging Instruction
PNEC: Predicted No Effect Concentration.
PSG: Passengers
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
vPvB: Very Persistent, Very Bioaccumulative.
WGK: German Water Hazard Class.

Date of revision of this SDS