Safety Data Sheet

P101

SDS Revision 1.0
Date: 03/01/2024

1. CHEMICALS AND COMPANY IDENTIFICATION

Chemical Name : P101

Other Names : VNP-P101

Use recommendations and limitations : See Technical Data Sheet.

Name, addresses, and phone numbers of the manufacturer, importer or supplier :

NANPAO MATERIALS VIETNAM CO., LTD.

Lot A4, A5, A10, A11, Dai Dang 3 Road, Dai Dang Industrial Park, Phu Tan Ward, Thu Dau Mot City, Binh Duong Province, Vietnam

+84-274-3815811-13 / +84-274-3815810

Emergency contact phone numbers/fax numbers :

+84-274-3815811-13 / +84-274-3815810

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Flammable Liquid, category 3;H226	Flammable liquid and vapor.
Serious eye damage / eye irritation, category 2;H319	Causes serious eye irritation.
Single target organ toxicity, single exposure category 3;H336	May cause drowsiness or dizziness.

Label contents:

Classification of hazards in GHS

Pictograms:

Flame

Exclamation Mark

Signal Word: Warning

Hazard Statements :

H226 Flammable liquid and vapor.

H319 Causes serious eye irritation.

H336 May cause drowsiness and dizziness.

Precautionary Statements :

[Prevention]:

P210 Keep away from heat, sparks, open flames, hot surfaces - No smoking.

P233 Keep container tightly closed.

P235 Keep cool.

P240 Ground, bond container and receiving equipment.

P241 Use explosion-proof electrical, ventilating, light, equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P261 Avoid breathing dust, fume, gas, mist, vapors, spray.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P280 Wear protective gloves, eye protection, face protection.

[Response]:

P303+361+353 IF ON SKIN (or hair): Remove, take off immediately all contaminated clothing. Rinse skin with water, shower.

P304+340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

P312 Call a POISON CENTER, doctor or physician if you feel unwell.

P337+313 If eye irritation persists: Get medical advice or attention.

P370+378 In case of fire: Use extinguishing media listed in section 5 of SDS for extinction.

[Storage]:

P403+233 Store in a well ventilated place. Keep container tightly closed.

P403+235 Store in a well ventilated place. Keep cool.

P405 Store locked up.

[Disposal]:

P501 Dispose of contents or container in accordance with local and national regulations.

Other hazards : This product contains no PBT/vPvB chemicals.

3. INGREDIENTS IDENTIFICATION INFORMATION

MIXTURE :

This product contains the following substances that present a hazard within the regulations of Taiwan.

Chemical Property :

Chemical Name	CAS Number	Concentration or concentration ranges (% of contents)	Classification according to regulation in Taiwan*
Methyl Ethyl Ketone	**CAS Number: 78-93-3** **EC No.: 201-159-0** **Index No.: 606-002-00-3**	13 - 18	**Flammable Liquid, category 2;H225** **Serious eye damage / eye irritation, category 2;H319** **Single target organ toxicity, single exposure category 3;H336**
Dimethyl sulfoxide	**CAS Number: 67-68-5** **EC No.: 200-664-3** **Index No.:**	**45 - 60**	**Not Classified**
Acetone	**CAS Number: 67-64-1** **EC No.: 200-662-2** **Index No.: 606-001-00-8**	13 - 18	**Flammable Liquid, category 2;H225** **Serious eye damage / eye irritation, category 2;H319** **Single target organ toxicity, single exposure category 3;H336**

Non-hazardous Components

Ingredient/Chemical Designations	Weight %	GHS Classification
Polyurethane resin **CAS Number: 52270-22-1**	1 - 5	**Not Classified**

4. FIRST-AID MEASURES

The first-aid measures for different exposure routes :

General :

In all cases of doubt, or when symptoms persist, seek medical attention.

Never give anything by mouth to an unconscious person.

Inhalation :

Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial

respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

Skin contact :

Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.

Eye contact :

Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.

Ingestion :

If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

Most important symptoms and hazardous effects :

General :

Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits 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. Symptoms include headache, nausea, 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 dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage.

Inhalation :

May cause drowsiness or dizziness.

Eye contact :

Causes serious eye irritation.

Skin contact :

No available information

The protection of first-aiders :

Wear C-class protective equipment and stay in a safe area to implement first aid.

Notes to physicians :

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable fire extinguishing media :

Recommended extinguishing media; alcohol resistant foam, CO_2, powder.

Special hazards may be encountered during fire-fighting :

Hazardous decomposition: Carbon Dioxide, Carbon Monoxide

Keep away from heat, sparks, open flames, hot surfaces - No smoking.

Keep container tightly closed.

Keep cool.
Ground, bond container and receiving equipment.
Use explosion-proof electrical, ventilating, light, equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing dust, fume, gas, mist, vapors, spray.

Special fire-fighting methods :
Water spray is not suitable to be used to put out the fire caused by the chemical, but its water spray can be used to cool down the containers and protect the materials in the fire scene.

Special equipment and protections for fire-fighters :
As with all fires, wear positive pressure, self-contained breathing apparatus, (SCBA) with a full facepiece and protective clothing. Persons without respiratory protection should leave area. Wear SCBA during clean-up immediately after fire. No smoking.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions :
Put on appropriate personal protective equipment (see section 8).

Environmental precautions :
Do not allow spills to enter drains or waterways.
Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

Methods for cleaning up :
Ventilate the area and avoid breathing vapors. Take the personal protective measures listed in section 8. Contain and absorb spillage with non-combustible materials e.g. sand, earth, and vermiculite. Place in closed containers outside buildings and dispose of according to the Waste Regulations.

7. SAFE HANDLING AND STORAGE MEASURES

Handling :
See section 2 for further details. - [Prevention]:

Storage :
Handle containers carefully to prevent damage and spillage.
Incompatible materials: No data available.
See section 2 for further details. - [Storage]:

8. EXPOSURE CONTROLS MEASURES

Engineering Controls :
Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local

exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.

Control parameters

Ingredient	8 hours time weighted average exposure limits	Short-term exposure limits	Maximum exposure limits	Other Regulations	
67-64-1 / Acetone	200 ppm TWA; 475 mg/m3 TWA	250 ppm 593.75 mg/m3	No available information	ACGIH	TWA: 500 ppmSTEL: 750 ppm
				NIOSH	250 ppm (590 mg/m3) TWA
67-68-5 / Dimethyl sulfoxide	No available information	No available information	No available information	ACGIH	No available information
				NIOSH	No available information
78-93-3 / Methyl Ethyl Ketone	200 ppm TWA; 590 mg/m3 TWA	250 ppm 737.5 mg/m3	0.02 ppm, 0.2 mg/m3	ACGIH	TWA: 50 ppmSTEL: 100 ppm
				NIOSH	TWA 200 ppm (590 mg/m3) STEL: 300 ppm (885 mg/m3)

Ingredient	BEI
67-64-1 /Acetone	Urine acetone 50mg/L (Ns)
67-68-5 / Dimethyl sulfoxide	No available information
78-93-3 /Methyl Ethyl Ketone	The MEK in urine after work is 2mg/L (Ns)

Personal protective equipment :

Respiratory protection :

If workers are exposed to concentrations above the exposure limit they must use the appropriate, certified respirators.

Hand protection :

Protective gloves recommended.

Eye protection :

Wear safety glasses with side shields to protect the eyes. An eye wash station is suggested as a good workplace practice.

Skin and body protection :

Avoid skin contact.

Hygiene measures :

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (state, color, etc.) :	**Odor :**
Colorless transparent Liquid	Like ketone odor

Odor threshold : No available information	**Melting point :** No available information
pH value : No available information	**Boiling point / Boiling range :** 141.85℃
Flammability (solid, liquid) : No available information	**Flashpoint:** **Test method(Open cup or Close cup):** 23℃(Close cup)
Decomposition temperature : No available information	**Explosion limits :** 1.8% - 42%
Auto-ignition temperature : 353 ℃	**Vapor Density :** 2.39 (Air=1)
Vapor pressure : 75.8 mmHg/20℃	**Solubility :** Insoluble
Density : 1.02	**Evaporation rate :** 4.75 (Butyl acetate =1)
Octanol-Water partition coefficient : No available information	**Explosive properties :** No available information
Oxdising properties : No available information	**Odor threshold(Detect) :** No available information
Odor threshold (Sense) : No available information	

10. STABILITY AND REACTIVITY

Reactivity : Hazardous Polymerization will not occur.
Chemical stability : Stable under normal circumstances.
Possible hazardous reactions occurring under specific conditions : No available information
Conditions to avoid : Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Materials to avoid : No data available.
Hazardous decomposition products : Carbon Dioxide, Carbon Monoxide

11. TOXICOLOGICAL INFORMATION

Exposure routes/symptom :

Exposure routes

Ingestion、Skin contact、Eye contact、Inhalation

Symptom

Irritation、 Nausea、Puke、Headache、Drowsiness、Dizziness

Acute toxicity

Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits 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. Symptoms include headache, nausea, 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 dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage.

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapour LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Acetone - (67-64-1)	5,800.00, Rat - Category: NA	7,426.00, Rabbit - Category: NA	76.00, Rat - Category: NA	50.10, Rat - Category: NA	No available information
Dimethyl sulfoxide - (67-68-5)	28,300.00, Rat - Category: NA	40,000.00, Rat - Category: NA	No available information	No available information	40,250.00, Rat - Category: NA
Methyl Ethyl Ketone - (78-93-3)	No available information	6,480.00, Rabbit - Category: NA	32.00, Mouse - Category: NA	No available information	No available information

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Carcinogen Data

CAS No.	Ingredient	Source	Value
67-64-1	Acetone	OSHA	Regulated Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
67-68-5	Dimethyl sulfoxide	OSHA	Regulated Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
78-93-3	Methyl Ethyl Ketone	OSHA	Regulated Carcinogen: No
		NTP	Known: No; Suspected: No

		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

Chronic toxicity or long term toxicity :

No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life.

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l	Biodegradability %
Acetone - (67-64-1)	8,120.00, Pimephales promelas	8,800.00, Daphnia pulex	7,000.00 (96 hr), Pseudokirchneriella subcapitata	90.90
Dimethyl sulfoxide - (67-68-5)	34,000.00, Pimephales promelas	24,600.00, Daphnia magna	17,000.00 (72 hr), Pseudokirchneriella subcapitata	31.00
Methyl Ethyl Ketone - (78-93-3)	2,993.00, Pimephales promelas	308.00, Daphnia magna	2,029.00 (96 hr), Pseudokirchnerella subcapitata	98.00

Persistence and degradation :

There is no data available on the preparation itself.

Organism accumulation :

No available information

Movement through soil, Koc :

No available information

Results of PBT and vPvB assessment :

This product contains no PBT/vPvB chemicals.

Other negative effects :

No available information

13. WASTE DISPOSAL MEASURES

Methods of waste disposal :

Observe all federal, state and local regulations when disposing of this substance.

14. TRANSPORT INFORMATION

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
United Nation number (UN No)	UN1993	UN1993	UN1993

UN proper shipping name	Flammable liquids, n.o.s.	Flammable liquids, n.o.s., (Methyl ethyl ketone,Acetone, Dimethyl sulfoxide)	Flammable liquids, n.o.s., (Methyl ethyl ketone,Acetone, Dimethyl sulfoxide)
Transport hazard classification	**DOT Hazard Class:** 3	**IMDG:** 3 **Sub Class:** Not Applicable	**Air class:** 3
Packing group	II	II	II
ERG Guide No.	128		
Ocean contaminants （Yes/No）	No		
Specific transport measures and precautionary conditions :	No available information		

15. REGULATORY INFORMATION

Applicable regulations :

Occupational Safety and Health Act

Toxic and Concerned Chemical Substances Control Act

Standards of Permissible Exposure Limits at Job Site

Regulations for the Labeling and Hazard Communication of Hazardous Chemicals

Regulations Governing Designating and Handling of Priority Management Chemicals

Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste

Toxic and Concerned Chemical Substances Transportation Management Regulations:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Taiwan - Priority Management Chemicals - Carcinogenic, Mutagenic, and Reproductive Toxic (CMR) Substances:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Taiwan - Priority Management Chemicals - Substances with Physical and Health Hazards:

Acetone

Methyl Ethyl Ketone

Organic Solvents, Taiwan OSHA:

Acetone

Methyl Ethyl Ketone

Specified Chemical Substances, Taiwan OSHA:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Specified Management Substances, Taiwan OSHA:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Jobsite Monitoring for Organic Solvents, Taiwan OSHA:

Acetone

Methyl Ethyl Ketone

Jobsite Monitoring for Specfied Chemical Substance, Taiwan OSHA:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Monitoring Records kept for 30 years, Taiwan OSHA:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

16. OTHER INFORMATION

Reference	1. Department of Occupational Safety and Health, GHS Chemical Global Harmonization System website (http://ghs.osha.gov.tw/CHT/masterpage/index_CHT.aspx) 2. Environmental Protection Department of the Executive Yuan Department of Toxic Chemical Substances (http://www.epa.gov.tw/np.asp?ctNode=31422&mp=epa) 3. The website of the European Chemical Agency. (http://echa.europa.eu/)
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