

1. COMPANY AND PRODUCT IDENTIFICATION

Product Name : Rubber Solvent, Hydrogenated Rubber Solvent
Application Uses : Composition of gasoline, Solvent for rubber industries
Company Name : Verasuwan Company Limited
Company Address : 53/2, 53/8 Moo 5, Setthakij 1 Road, Nadee, Muang Samutsakorn 74000, Thailand
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2. HAZARDS IDENTIFICATION

GHS classification : Flammable Liquids, Category 2
 Skin Corrosion/Irritation, Category 2
 Toxic to reproduction, Category 2
 Carcinogenicity, Category 1
 Specific target organ systemic toxicity (single exposure), Category 3
 Narcotic effects.
 Specific target organ systemic toxicity (repeat exposure), Category 2
 Central nervous system (CNS).
 Peripheral nervous system.
 Aspiration Hazard, Category 1
 AQUATIC TOXICITY (ACUTE), Category 2
 AQUATIC TOXICITY (CHRONIC), Category 2

GHS label elements Symbols



Signal words : Danger

GHS Hazard statements

Physical hazards : H225 Highly flammable liquid and vapor.
Health hazards : H304 May be fatal if swallowed and enters airways.
 H315 Causes mild skin irritation.
 H336 May cause drowsiness or dizziness.
 H350 May cause cancer.
 H361 Suspected to damaging fertility or the unborn child.
 H373 May cause damage to organs or organ system through prolonged or repeated exposure. Central nervous system (CNS), Peripheral nervous system.
 H401 Toxic to aquatic life
Environmental hazards : H411 Toxic to aquatic life with long lasting effects.

GHS Precautionary statements

Prevention	:	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. P233 Keep container tightly closed. P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical/ventilating/lighting equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P260 Do not breathe dust/fume/gas/mist/vapours/spray. P261 Avoid breathing dust/fume/vapors/spray. P264 Wash hands thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection. P281 Use personal protective equipment as required.
Response	:	P303+P361+P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. P370+P378 In case of fire: Use appropriate media for extinction. P302+P352 IF ON SKIN: Wash with plenty of soap and water. P321 Specific treatment (see details on label). P332+P313 If skin irritation occurs: Get medical advice/attention. P362 Take off contaminated clothing and wash before reuse. P308+P313 If exposed or concerned, get medical advice/attention. P304+P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. P312 Call a POISON CENTER or doctor/physician if you feel unwell. P314 Get medical advice/attention if you fell unwell. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P331 Do NOT induce vomiting. P391 Collect spillage.
Storage	:	P403+P235 Store in a well-ventilated place. Keep cool. P405 Store locked up. P233 Keep Container tightly closed.
Disposal	:	P501 Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical Identity	:	Naphtha (Petroleum)
CAS No.	:	64741-87-3



Classification of components according to GHS

Chemical Name	Synonyms	CAS	Hazard Class (category)	Hazard statement	Conc.
Naphtha (Petroleum)	Naphtha	64741-87-3	Flam. Liq. - 2, Repr. -2, Asp.Tox., - 1 STOT RE. -2, Skin Irrit. -2 STOT SE. -3, Aquatic Chronic - 2	H225,H361 H304,H373 H315,H336, H411	80 – 95%
n-Hexane	Hexane	110-54-3	Flam. Liq. - 2, Repr. -2, Asp.Tox., - 1 STOT RE. -2, Skin Irrit. -2 STOT SE. -3, Aquatic Chronic - 2	H225,H361 H304,H373 H315,H336, H411	5 – 10 %
Benzene		71-43-2	Flam. Liq., 2 Carc., 1A Muta., 1B STOT RE, 1 Asp. Tox., 1 Eye Irrit., 2 Skin Irrit., 2	H225;H350; H340;H372; H304;H319; H315;	0.5 – 3.0 %

4. FIRST AID MEASURES

- General Information** : Not expected to be health hazard when used under normal conditions.
- Inhalation** : Remove to fresh air. If rapid recovery does not occur, transport to the nearest medical facility for additional treatment.
- Skin Contact** : Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.
- Eye Contact** : Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.
- Ingestion** : If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3° C), shortness of breath, chest congestion or continued coughing or wheezing.



- Note to physicians** : Defatting dermatitis signs and symptoms may include a burningsensation and/or a dried/cracked appearance. Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. Peripheral nerve damage may be evidenced by impairment of motor function (incoordination, unsteady walk, or muscle weakness in the extremities, and/or loss of sensation in the arms and legs). If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing.
- Immediate medical attention and special particularly treatment** : Potential for chemical pneumonitis. Call a doctor or poison center for guidance. Potential for cardiac sensitisation, in abuse situations. Hypoxia or negative inotropes may enhance these effects. Consider: oxygen therapy. Causes central nervous system depression. Dermatitis may result from prolonged or repeated exposure.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

- Specific Hazards** : Carbon monoxide may be evolved if incomplete combustion occurs. Will float and can be reignited on surface water. The vapour is heavier than air, spreads along the ground and distant ignition is possible.
- Extinguish media** : Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. Do not discharge extinguishing water into the aquatic environment.
- Unsuitable Extinguishing: Media** : Do not use water in a jet
- Protective Equipment** : Wear full protective clothing and self-contained breathing apparatus.
- Additional information** : Keep adjacent containers cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES

Observe all relevant local and international regulations.

- Personal precautions, protective equipment and emergency procedures** : Avoid contact with spilled or released material. Immediately remove all contaminated clothing. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Material Safety Data Sheet.
- Environmental precautions** : Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use



appropriate containment (of product and firefighting water) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapor or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.

Methods and material for containment and clean Up

: For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.

Additional advice

: Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Vapor may form an explosive mixture with air.

7. HANDLING AND STORAGE

General Precautions

: Avoid breathing vapors or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. On guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

Precautions for Safe Handling

: Avoid contact with skin, eyes, and clothing. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/sec until fill pipe submerged to twice its diameter, then ≤ 7 m/sec). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations. The vapor is heavier than air, spreads along the ground and distant ignition is possible. Handle and open container with care in a well ventilated area. Ventilate workplace in such a way that the Occupational Exposure Limit (OEL) is not exceeded. Do not empty into drains.



- Conditions for safe storage** : Must be stored in a diked (bunded) area. Bulk storage tanks should be diked (bunded). Keep away from flammables, oxidizing agents, and corrosives and from other flammable products which are not harmful or toxic to man or to the environment. Storage Temperature: Ambient.
- Product transfer** : Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/sec until fill pipe submerged to twice its diameter, then ≤ 7 m/sec). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations. Keep containers closed when not in use. Do not use compressed air for filling, discharging or handling.
- Recommended materials** : For containers, or container linings use mild steel, stainless steel. For container paints, use epoxy paint, zinc silicate paint.
- Unsuitable materials** : Avoid prolonged contact with natural, butyl or nitrile rubbers.
- Container advice** : Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.
- Other advice** : Ensure that all local regulations regarding handling and storage facilities are followed.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

If the American Conference of Governmental Industrial Hygienists (ACGIH) value is provided on this document, it is provided for information only.

Material	Source	Type	ppm	Notation
n-Hexane	ACGIH	TWA SKIN_DES	50 ppm	Can be absorbed through the skin
Benzene	ACGIH	TWA STEL SKIN_DES	0.5 ppm 2.5 ppm	Can be absorbed through the skin

- Appropriate Engineering Controls** : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits. Eye washes and showers for emergency use.
- Individual protection Measures** : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers. If engineering controls do not maintain airborne concentrations
- Respiratory Protection** : to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with



respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for organic gases and vapors [boiling point >65 °C (149 °F)] meeting EN14387. Where air-filtering respirators are unsuitable (e.g., airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.

Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739, AS/NZS:2161) made from the following materials may provide suitable chemical protection: Longer term protection: Viton. Incidental contact/Splash protection: Nitrile rubber. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Hand protection	:	Chemical splash goggles (chemical monogoggles).
Eye protection	:	Chemical resistant gloves/gauntlets, boots, and apron. Where risk of splashing or in spillage clean up, use chemical resistant one-piece overall with integral hood.
Body protection	:	Not applicable
Thermal hazards	:	Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Examples of sources of recommended air monitoring methods are given below or contact supplier. Further national methods may be available. National Institute of occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods,
Monitoring Methods	:	Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapor.
Environmental Exposure Controls	:	

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Colorless liquid
Odor	:	Paraffinic sweet
Odor threshold	:	Data not available
pH	:	Not applicable
Boiling point	:	Typical 55 – 85 °C
Melting / freezing point	:	Typical -50 °C / -58 °F
Flash point	:	Typical <-20 °C / -4 °F (Abel)
Explosion / Flammability	:	1 – 7.5%(V)



Limits in air	:	0.6 – 7.0 %Vol
Auto-ignition temperature	:	350 °C / 662 °F (ASTM E-659)
Vapor pressure	:	Typical 15 kPa at 20 °C / 68 °F
Density	:	Typical 684 kg/m ³ at 15 °C / 59 °F (ASTM D-1298)
Water Solubility	:	Negligible
Solubility in other solvents	:	Hydrocarbon solvent(s) Miscible
n-octanol/water as partition coefficient (log P _{ow})	:	3.4 - 5.2
Decomposition Temperature	:	Note: Stable under normal conditions of use
Dynamic viscosity	:	Data not available
Kinematic viscosity	:	Data not available
Vapor density (air=1)	:	3.1
Evaporation rate (nBuAc=1)	:	Data not available

10. STABILITY AND REACTIVITY

Chemical Stability	:	Stable under normal conditions of use.
Possibility of hazardous reactions	:	Data not available
Conditions to avoid	:	Avoid heat, sparks, open flames and other ignition sources.
Incompatible materials	:	Strong oxidizing agents.
Hazardous Decomposition products	:	Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation
Sensitivity to static discharge	:	Yes

11. TOXICOLOGICAL INFORMATION

Information on Toxicological effects

Basis for Assessment	:	Information given is based on product testing, and/or similar products, and/or components.
Routes of exposure	:	Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.

Acute Toxicity

Acute Oral toxicity	:	Low toxicity: LD50 > 5000 mg/kg, Rat
Acute Dermal Toxicity	:	Low toxicity : LD50 > 5000 mg/kg , Rat
Acute Inhalation Toxicity	:	Expected to be low toxicity if inhaled.
Skin corrosion/irritation	:	Causes skin irritation. Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis.
Serious eye damage/irritation	:	Expected to be non-irritating to eyes. Vapours may be irritating to the eye. Insufficient to classify
Respiratory Irritation	:	Inhalation of vapours or mists may cause irritation to the respiratory system.
Skin or respiratory Sensitization	:	Not expected to be a skin sensitizer.



Aspiration hazard	:	Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.
Germ cell mutagenicity	:	Not expected to be mutagenic.
Carcinogenicity	:	May cause cancer (Benzene, IARC class 1)
Reproductive and Developmental toxicity	:	Causes foetotoxicity in animals at doses which are maternally toxic. Affects reproductive system in animals at doses which produce other toxic effects. (n-Hexane)
Specific target organ toxicity- single exposure	:	May cause drowsiness or dizziness.
Specific target organ toxicity- repeated exposure	:	Causes damage to organs through prolonged or repeated exposure. Central nervous system: repeated exposure affects the nervous system. Kidney: caused kidney effects in male rats which are not considered relevant to humans. Peripheral nervous system: causes peripheral neuropathy which can be potentiated by ketones. (n-Hexane)
Additional Information	:	Exposure to very high concentrations of similar materials has been associated with irregular heart rhythms and cardiac arrest.

12. ECOLOGICAL INFORMATION

Basis for assessment	:	Incomplete ecotoxicological data are available for this product. The information given below is based partly on a knowledge of the components and the ecotoxicology of similar products.
Acute Toxicity		
Fish	:	Expected to be harmful: LL/EL/IL50 >10 - <=100 mg/l
Aquatic Invertebrates	:	Expected to be toxic: LL/EL/IL50 >1 - <= <= 10 mg/l
Algae	:	Expected to be toxic: LL/EL/IL50 >1 - <= <= 10 mg/l
Microorganisms	:	Expected to be toxic: LL/EL/IL50 >1 - <= <= 10 mg/l
Mobility	:	Floats on water. Adsorbs to soil and has low mobility.
Persistence and degradability	:	Expected to be inherently biodegradable. Oxidises rapidly by photo-chemical reactions in air.
Bioaccumulative potential	:	Has the potential to bioaccumulate.
Other Adverse Effects	:	In view of the high rate of loss from solution, the product is unlikely to pose a significant hazard to aquatic life.

13. DISPOSAL CONSIDERATIONS

- Material Disposal : Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.
 Do not dispose into the environment, in drains or in water courses. Waste product should not be allowed to contaminate soil or water.
- Container Disposal : Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not, puncture, cut, or weld uncleaned drums. Send to drum recoverer or metal reclaimer.
- Local Legislation : Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION

- Land (as per ADR classification) : Regulated
 Class : 3
 Packing group : III
 Hazard Identification no. : 33
 UN no. : 1268
 Danger label (primary risk) : 3
 Proper shipping name : Petroleum Distillates, N.O.S
 Environmentally Hazardous : Yes

IMDG

- Identification number : UN 1268
 Proper shipping name : Petroleum Distillates, N.O.S
 Class / Division : 3
 Packing group : III
 Marine pollutant : Yes (N-Hexane)

IATA (Country variation may apply)



UN no. : 1268
Proper shipping name : Petroleum Distillates, N.O.S
Class / Division : 3
Packing group : III

**Sea (Annex II of MARPOL 73/78
and the IBC code)**

Pollution Category : Annex I
Ship Type : 2
Product name :
Special Precaution :

15. Regulatory Information

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Chemical Inventory Status

AICS : Listed
DSL : Listed
INV (CN) : Listed
TSCA : Listed
EINECS : Listed 265-198-5
KECI (KR) : Listed KE-31656
PICCS (PH) : Listed

16. Other Information

MSDS Version Number : 2.1
MSDS Effective Date : 1-June-2018
Use and Restrictions : Raw material for use in the chemical industry.
Use only in industrial processes
MSDS Distribution : The information in this document should be made available to all who may handle the product
Disclaimer : This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.