According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Naphtha (petroleum) hydrotreated heavy

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SECTION 1. IDENTIFICATION

Product name : Naphtha (petroleum) hydrotreated heavy

Product code : 002D4469

Manufacturer or supplier's details

Manufacturer/Supplier : Vertex Refining Alabama LLC

400 Industrial Pkwy Ext. East

Saraland AL 36571

USA

SDS Request : 251-679-7180 Customer Service : 251-679-7180

Emergency telephone number

Spill Information : 800-424-9300 Health Information : 800-424-9300

Recommended use of the chemical and restrictions on use

Recommended use

Refinery stream.

Restrictions on use : This product must not be used in applications other than those

listed in Section 1 without first seeking the advice of the sup-

plier.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Flammable liquids : Category 2

Skin irritation : Category 2

Aspiration hazard : Category 1

Reproductive toxicity : Category 2

Germ cell mutagenicity : Category 1B

Carcinogenicity : Category 1B

Specific target organ toxicity :

- single exposure (Inhalation)

Category 3 (Narcotic effects.)

Chronic aquatic toxicity : Category 2

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GHS label elements

Hazard pictograms









Signal word : Danger

Hazard statements : PHYSICAL HAZARDS:

H225 Highly flammable liquid and vapour.

HEALTH HAZARDS:

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H340 May cause genetic defects.

H350 May cause cancer.

H361 Suspected of damaging fertility or the unborn child.

ENVIRONMENTAL HAZARDS:

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention:

P201 + P202 Obtain special instructions before use. 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.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ 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.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P312 Call a POISON CENTER or doctor/ physician if you feel

P321 Specific treatment (see supplemental first aid instructions

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on this label).

P331 Do NOT induce vomiting.

P332 + P313 If skin irritation occurs: Get medical advice/ atten-

tion.

P362 Take off contaminated clothing and wash before reuse.

P391 Collect spillage.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool. P405 Store locked up.

Disposal:

P501 Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

Other hazards

Other hazards which do not result in classification

Liquid evaporates quickly and can ignite leading to a flash fire, or an explosion in a confined space.

A component or components of this material may cause cancer.

This product contains benzene which may cause leukaemia (AML - acute myelogenous leukaemia).

This material is a static accumulator.

Even with proper grounding and bonding, this material can still accumulate an electrostatic charge.

If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable airvapour mixtures can occur.

May cause MDS (Myelodysplastic Syndrome).

The classification of this material is based on OSHA HCS 2012 criteria.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical name	Synonyms	CAS-No.	Concentration (% w/w)
Naphtha (petroleum),	Naphtha (pe-	64742-48-9	<= 100
hydrotreated heavy	troleum), hy-		
	drotreated		
	heavy		

Further information

Contains:

Chemical name	Identification number	Concentration [%]
toluene	108-88-3, 203-625-9	0 - 35
Xylene	1330-20-7, 215-535-7	0 - 25
n-Hexane	110-54-3, 203-777-6	0 - 20
Ethylbenzene	100-41-4, 202-849-4	0 - 10
benzene	71-43-2, 200-753-7	0 - 5
cyclohexane	110-82-7, 203-806-2	0 - 5
cumene	98-82-8, 202-704-5	0 - 5
Naphthalene	91-20-3, 202-049-5	0 - 1

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SECTION 4. FIRST-AID MEASURES

If inhaled Remove to fresh air. If rapid recovery does not occur.

transport to nearest medical facility for additional treatment.

Remove contaminated clothing. Immediately flush skin with In case of skin contact

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.

Flush eye with copious quantities of water. In case of eye contact

Remove contact lenses, if present and easy to do. Continue

rinsing.

If persistent irritation occurs, obtain medical attention.

If swallowed Call emergency number for your location / facility.

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.

Most important symptoms and effects, both acute and

delayed

Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters.

Eye irritation signs and symptoms may include a burning sen-

sation and a temporary redness of the eye.

If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest

congestion, shortness of breath, and/or fever.

The onset of respiratory symptoms may be delayed for sever-

al hours after exposure.

Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-

headedness, headache and nausea.

Protection of first-aiders When administering first aid, ensure that you are wearing the

appropriate personal protective equipment according to the

incident, injury and surroundings.

Indication of any immediate

medical attention and special

treatment needed

Treat symptomatically.

Call a doctor or poison control center for guidance.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Foam, water spray or fog. Dry chemical powder, carbon diox-

ide, sand or earth may be used for small fires only.

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Unsuitable extinguishing

media

Do not use direct water jets on the burning product as they could cause a steam explosion and spread of the fire.

Simultaneous use of foam and water on the same surface is

to be avoided as water destroys the foam.

Specific hazards during fire-

fighting

Hazardous combustion products may include:

A complex mixture of airborne solid and liquid particulates and

gases (smoke).

Unidentified organic and inorganic compounds.

Carbon monoxide may be evolved if incomplete combustion

occurs.

The vapour is heavier than air, spreads along the ground and

distant ignition is possible.

Will float and can be reignited on surface water.

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.

Further information : Clear fire area of all non-emergency personnel.

If the fire cannot be extinguished the only course of action is

to evacuate immediately.

Keep adjacent containers cool by spraying with water. If possible remove containers from the danger zone.

Contain residual material at affected sites to prevent material from entering drains (sewers), ditches, and waterways.

Special protective equipment:

for firefighters

Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if

large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to

relevant Standards (e.g. Europe: EN469).

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Do not breathe fumes, vapour.

Do not operate electrical equipment.

Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area and evacuate all personnel. Attempt to disperse the gas 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. Monitor area with combustible gas meter.
Vapour can travel for considerable distances both above and below the ground surface. Underground services (drains,

pipelines, cable ducts) can provide preferential flow paths.

Environmental precautions : Take measures to minimise the effects on groundwater.

Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers.

Contain residual material at affected sites to prevent material

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from entering drains (sewers), ditches, and waterways.

Methods and materials for containment and cleaning up

Take precautionary measures against static discharges. 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 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.

Observe all relevant local and international regulations.

Avoid contact with skin, eyes and clothing.

Evacuate the area of all non-essential personnel.

Ventilate contaminated area thoroughly.

If contamination of site occurs remediation may require specialist advice.

Ensure electrical continuity by bonding and grounding (earthing) all equipment.

Additional advice

: For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet.

Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

For guidance on disposal of spilled material see Chapter 13 of this Safety Data Sheet.

Local authorities should be advised if significant spillages cannot be contained.

Maritime spillages should be dealt with using a Shipboard Oil Pollution Emergency Plan (SOPEP), as required by MARPOL Annex 1 Regulation 26.

U.S. regulations may require reporting releases of this material to the environment which exceed the reportable quantity (refer to Chapter 15) to the National Response Center at (800) 424-8802.

Under Section 311 of the Clean Water Act (CWA) this material is considered an oil. As such, spills into surface waters must be reported to the National Response Center at (800) 424-8802.

This material is covered by EPA's Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Petroleum Exclusion. Therefore, releases to the environment may not be reportable under CERCLA.

SECTION 7. HANDLING AND STORAGE

Technical measures : Avoid breathing of or direct contact with material. Only use in

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> well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet.

Prevent spillages.

Do not use as a cleaning solvent or other non-motor fuel uses. Turn off all battery operated portable electronic devices (examples include: cellular phones, pagers and CD players) before operating gasoline pump.

Contaminated leather articles including shoes cannot be decontaminated and should be destroyed to prevent reuse. Air-dry contaminated clothing in a well-ventilated area before laundering.

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.

Avoid contact with skin, eyes and clothing.

Advice on safe handling

Ensure that all local regulations regarding handling and storage facilities are followed.

When using do not eat or drink.

Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.

Never siphon by mouth.

The vapour is heavier than air, spreads along the ground and distant ignition is possible.

Avoid exposure.

Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.

Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.

Avoidance of contact

Strong oxidising agents.

Product Transfer

: Wait 2 minutes after tank filling (for tanks such as those on road tanker vehicles) before opening hatches or manholes. Wait 30 minutes after tank filling (for large storage tanks) before opening hatches or manholes. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable airvapour mixtures can occur. Be aware of handling operations that may give rise to additional hazards that result from the accumulation of static charges. These include but are not limited to pumping (especially turbulent flow), mixing, filtering, splash filling, cleaning and filling of tanks and containers, sampling, switch loading, gauging, vacuum truck operations, and mechanical movements. These activities may lead to static discharge e.g. spark formation. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/s until fill pipe submerged to twice its diameter, then ≤ 7 m/s). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations.

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Further information on stor-

age stability

Tank storage:

Tanks must be specifically designed for use with this product.

Bulk storage tanks should be diked (bunded).

Locate tanks away from heat and other sources of ignition. Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions.

Keep in a cool place.

Electrostatic charges will be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk.

The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable.

Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.

Packaging material

Suitable material: For containers, or container linings use mild steel, stainless steel., Aluminium may also be used for applications where it does not present an unnecessary fire hazard., Examples of suitable materials are: high density polyethylene (HDPE), polypropylene (PP), and Viton (FKM), which have been specifically tested for compatibility with this product., For container linings, use amine-adduct cured epoxy paint., For seals and gaskets use: graphite, PTFE, Viton A, Viton B. Unsuitable material: Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Examples of materials to avoid are: natural rubber (NR), nitrile rubber (NBR), ethylene propylene rubber (EPDM), polymethyl methacrylate (PMMA), polystyrene, polyvinyl chloride (PVC), polyisobutylene., However, some may be suitable for glove materials.

Container Advice

: Do not cut, drill, grind, weld or perform similar operations on or near containers. Containers, even those that have been emptied, can contain explosive vapours.

Specific use(s) : Not applicable

See additional references that provide safe handling practices for liquids that are determined to be static accumulators: American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices

on Static Electricity).

IEC/TS 60079-32-1: Electrostatic hazards, guidance

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SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
toluene	108-88-3	TWA	20 ppm	ACGIH
toluene	100 00 0	TWA	200 ppm	OSHA Z-2
toluene		CEIL	300 ppm	OSHA Z-2
toluene		Peak	500 ppm (10 minutes)	OSHA Z-2
Xylene	1330-20-7	TWA	100 ppm 435 mg/m3	OSHA Z-1
Xylene		TWA	100 ppm	ACGIH
Xylene		STEL	150 ppm	ACGIH
Xylene		STEL	150 ppm 655 mg/m3	OSHA P0
Xylene		TWA	100 ppm 435 mg/m3	OSHA P0
n-Hexane	110-54-3	TWA	500 ppm 1,800 mg/m3	OSHA Z-1
n-Hexane		TWA	50 ppm	ACGIH
Ethylbenzene	100-41-4	TWA	20 ppm	ACGIH
Ethylbenzene		TWA	100 ppm 435 mg/m3	OSHA Z-1
benzene		TWA	0.5 ppm	ACGIH
benzene		STEL	2.5 ppm	ACGIH
benzene		PEL	1 ppm	OSHA CARC
benzene		STEL	5 ppm	OSHA CARC
benzene		TWA	10 ppm	OSHA Z-2
benzene		CEIL	25 ppm	OSHA Z-2
benzene		Peak	50 ppm (10 minutes)	OSHA Z-2
cyclohexane	110-82-7	TWA	100 ppm	ACGIH
cyclohexane		TWA	300 ppm 1,050 mg/m3	OSHA Z-1
cumene	98-82-8	TWA	50 ppm 245 mg/m3	OSHA Z-1
cumene		TWA	50 ppm	ACGIH
Naphthalene	91-20-3	TWA	10 ppm 50 mg/m3	OSHA Z-1
Naphthalene		TWA	10 ppm	ACGIH

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| Solution | S

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentration	Basis
toluene	108-88-3	Toluene	In blood	Prior to last shift of work-week	0.02 mg/l	ACGIH BEI
		Toluene	Urine	End of shift (As soon as possible after exposure ceases)	0.03 mg/l	ACGIH BEI
		o-Cresol	Urine	End of shift (As soon as possible after exposure ceases)	0.3 mg/g Creatinine	ACGIH BEI
Xylene	1330-20-7	Methylhip- puric acids	Urine	End of shift (As soon as possible after exposure ceases)	1.5 g/g cre- atinine	ACGIH BEI
n-Hexane	110-54-3	2,5- Hexanedi- one	Urine	End of shift at end of work- week	0.4 mg/l	ACGIH BEI
Ethylbenzene	100-41-4	Sum of mandelic acid and phenyl gly- oxylic acid	Urine	End of shift (As soon as possible after exposure ceases)	0.15 g/g creatinine	ACGIH BEI
				End of shift	0,15 g/g creatinine	ACGIH BEI
benzene	71-43-2	S- Phenylmer- capturic acid	Urine	End of shift (As soon as possible after exposure ceases)	25 µg/g creatinine	ACGIH BEI

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t,t-Muconic acid	Urine	End of shift (As soon as possible after	500 μg/g creatinine	ACGIH BEI	
		exposure			
		ceases)			

Monitoring Methods

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.

Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/

Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany http://www.dguv.de/inhalt/index.jsp

L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

Engineering measures

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:

Use sealed systems as far as possible.

Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.

Local exhaust ventilation is recommended.

Eye washes and showers for emergency use.

Prevent unauthorised persons entering the zone.

Firewater monitors and deluge systems are recommended.

General Information:

Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when there is potential for inhalation; clear up

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spills immediately and dispose of wastes safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance.

Do not ingest. If swallowed then seek immediate medical assistance.

Personal protective equipment

Respiratory protection

If engineering controls do not maintain airborne concentrations 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.

Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.

All respiratory protection equipment and use must be in accordance with local regulations.

Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

Select a filter suitable for the combination of organic gases and vapours [Type A/Type P boiling point >65°C (149°F)].

Hand protection Remarks

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. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Select gloves tested to a relevant standard (e.g. Europe EN374, US F739). When prolonged or frequent repeated

contact occurs, Nitrile gloves may be suitable. (Breakthrough

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time of > 240 minutes.) For incidental contact/splash protec-

tion Neoprene, PVC gloves may be suitable.

Eye protection : Wear goggles for use against liquids and gas.

If a local risk assessment deems it so then chemical splash goggles may not be required and safety glasses may provide

adequate eye protection.

Skin and body protection : Wear chemical resistant gloves/gauntlets and boots. Where

risk of splashing, also wear an apron.

Protective measures : Personal protective equipment (PPE) should meet recom-

mended national standards. Check with PPE suppliers.

Hygiene measures : Always observe good personal hygiene measures, such as

washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.

Practice good housekeeping.

Environmental exposure controls

General advice : Local guidelines on emission limits for volatile substances

must be observed for the discharge of exhaust air containing

vapour.

Information on accidental release measures are to be found in

section 6.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

liquid

Colour : Colourless to yellowish

Not applicable

Odour : Hydrocarbon

Not applicable

Odour Threshold : Data not available

pH : Data not available

Melting point/freezing point : Data not available

Initial boiling point and boiling :

range

65 - 230 °C / 149 - 446 °F

Boiling point/boiling range 20 - 190 °C / 68 - 374 °F

Method: Unspecified

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 $: < 0 \, ^{\circ}\text{C} / 32 \, ^{\circ}\text{F}$ Flash point

<= -40 °C / <= -40 °F

Method: Unspecified

Evaporation rate Data not available

Flammability (solid, gas) Not applicable

Upper explosion limit / upper

flammability limit

7.6 %(V)

Lower explosion limit / Lower : 1.4 %(V)

flammability limit

Vapour pressure : 10 - 90 kPa (38.00 °C / 100.40 °F)

9 - 100 kPa (38 °C / 100 °F)

Method: Unspecified

20 - 180 kPa (50 °C / 122 °F)

Method: Unspecified

Relative density Data not available

Density 0.725 - 0.775 g/cm3 (15 °C / 59 °F)

640 - 760 kg/m3 (15 °C / 59 °F)

Method: Unspecified

Solubility(ies)

Water solubility Data not available

Solubility in other solvents Data not available

Partition coefficient: n-

octanol/water

Data not available

log Pow: 2 - 7

 $> 250 \, ^{\circ}\text{C} / 482 \, ^{\circ}\text{F}$ Auto-ignition temperature

Viscosity

: 0.25 - 0.75 mm2/s (40 °C / 104 °F) Viscosity, kinematic

0.25 - 0.75 mm2/s (40.0 °C / 104.0 °F)

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Method: Unspecified

Method: Unspecified Not applicable

Explosive properties : Classification Code: Not classified

Oxidizing properties : Not applicable

Conductivity : Low conductivity: < 100 pS/m, The conductivity of this material

makes it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10,000 pS/m., Whether a liquid is nonconductive or semiconductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and antistatic additives can greatly influence the conductivity of a liq-

uid

SECTION 10. STABILITY AND REACTIVITY

Reactivity : May oxidise in the presence of air.

Chemical stability : Stable under normal conditions of use.

Possibility of hazardous reac-

tions

No hazardous reaction is expected when handled and stored

according to provisions

Conditions to avoid : Avoid heat, sparks, open flames and other ignition sources.

In certain circumstances product can ignite due to static elec-

tricity.

Incompatible materials : Strong oxidising agents.

Hazardous decomposition

products

: Hazardous decomposition products are not expected to form

during normal storage.

Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degra-

dation.

SECTION 11. TOXICOLOGICAL INFORMATION

Basis for assessment : Information given is based on product data, a knowledge of

the components and the toxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual compo-

nent(s).

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Information on likely routes of exposure

Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.

Acute toxicity

Product:

Acute oral toxicity : LD50 Oral (Rat): > 5,000 mg/kg

Remarks: Low toxicity:

Acute inhalation toxicity : LC 50 (Rat): > 5 mg/l

Exposure time: 4 h Remarks: Low toxicity:

Remarks: Based on human experience, breathing of vapours or mists may cause a temporary burning sensation to nose,

throat and lungs.

Acute dermal toxicity : LD 50 (Rabbit): > 2,000 mg/kg

Remarks: Low toxicity:

Acute toxicity (other routes of :

administration)

Remarks: Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.

Skin corrosion/irritation

Product:

Remarks: Irritating to skin.

Serious eye damage/eye irritation

Product:

Remarks: Slightly irritating to the eye., Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Product:

Remarks: Not a sensitiser.

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Product:

: Remarks: Contains Benzene, CAS # 71-43-2., May cause

heritable genetic damage

Remarks: Mutagenicity studies on gasoline and gasoline blending streams have shown predominantly negative results.

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Carcinogenicity

Product:

Remarks: Contains Benzene, CAS # 71-43-2., Known human carcinogen.

Remarks: Contains Benzene, CAS # 71-43-2., May cause leukaemia (AML - acute myelogenous leukaemia)., May cause MDS (Myelodysplastic Syndrome).

Remarks: Inhalation exposure to mice causes liver tumours, which are not considered relevant to humans.

Remarks: An epidemiology study of more than 18,000 petroleum marketing and distribution workers found no significantly increased risk of death from leukemia, multiple myeloma, or kidney cancer associated with gasoline exposure.

IARC	Group 1: Carcinogenic to humans	
	benzene	71-43-2
	Group 2B: Possibly carcinogenic to humans	
	Ethylbenzene	100-41-4
	cumene	98-82-8
	Naphthalene	91-20-3
OSHA	OSHA specifically regulated carcinogen	
	benzene	71-43-2
NTP	Known to be human carcinogen	
	benzene	71-43-2
	Reasonably anticipated to be a human carcinogen	
	cumene	98-82-8
	Naphthalene	91-20-3

Reproductive toxicity

Product:

Remarks: Contains Toluene, CAS # 108-88-3., Causes foetotoxicity at doses which are maternally toxic.

Remarks: Contains n-Hexane, CAS # 110-54-3., May impair fertility at doses which produce other toxic effects.

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Remarks: Contains Toluene, CAS # 108-88-3., Many case studies involving abuse during pregnancy indicate that toluene can cause birth defects, growth retardation and learning difficulties.

STOT - single exposure

Product:

Remarks: High concentrations may cause central nervous system depression resulting in head-aches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.

Remarks: Slightly irritating to respiratory system.

STOT - repeated exposure

Product:

Remarks: Kidney: caused kidney effects in male rats which are not considered relevant to humans

Remarks: Contains Toluene, CAS # 108-88-3., Prolonged and repeated exposures to high concentrations have resulted in hearing loss in rats. Solvent abuse and noise interaction in the work environment may cause hearing loss., Abuse of vapours has been associated with organ damage and death.

Aspiration toxicity

Product:

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

Further information

Product:

Remarks: Exposure to very high concentrations of similar materials has been associated with irregular heart rhythms and cardiac arrest.

Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

SECTION 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.

Ecotoxicity

Product:

Toxicity to fish (Acute toxici-

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ty) Remarks: $LL/EL/IL50 > 1 \le 10 \text{ mg/l}$

Toxic

Toxicity to daphnia and other :

aquatic invertebrates (Acute

toxicity)

Remarks: LL/EL/IL50 > 1 <= 10 mg/l

Toxic

Toxicity to algae (Acute tox-

icity)

Remarks: LL/EL/IL50 > 1 <= 10 mg/l

Toxic

Toxicity to fish (Chronic tox-

icity)

Remarks: Data not available

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

Remarks: NOEC/NOEL > 1.0 - <= 10 mg/l

Toxicity to microorganisms

(Acute toxicity)

Remarks: LL/EL/IL50 >10 <= 100 mg/l

Harmful

Persistence and degradability

Product:

Biodegradability : Remarks: Inherently biodegradable.

Oxidises rapidly by photo-chemical reactions in air.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Contains components with the potential to bioac-

cumulate.

Mobility in soil

Product:

Mobility : Remarks: If the product enters soil, one or more constituents

will or may be mobile and may contaminate groundwater.

Floats on water.

Evaporates within a day from water or soil surfaces.

Other adverse effects

no data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : 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

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determine the proper waste classification and disposal meth-

ods in compliance with applicable regulations.

Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand. Do not dispose into the environment, in drains or in water

courses

Do not dispose of tank water bottoms by allowing them to

drain into the ground.

This will result in soil and groundwater contamination.

Contaminated packaging : 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.

Do not pollute the soil, water or environment with the waste

container.

Local legislation

Remarks : Disposal should be in accordance with applicable regional,

national, and local laws and regulations.

Local regulations may be more stringent than regional or na-

tional requirements and must be complied with.

SECTION 14. TRANSPORT INFORMATION

National Regulations

US Department of Transportation Classification (49 CFR Parts 171-180)

UN/ID/NA number : UN 1268

Proper shipping name : PETROLEUM DISTILLATES, N.O.S.

Class : 3
Packing group : II
Labels : 3
ERG Code : 128
Marine pollutant : no

International Regulations

IATA-DGR

UN/ID No. : UN 1268

Proper shipping name : PETROLEUM DISTILLATES, N.O.S.

Class : 3
Packing group : II
Labels : 3

IMDG-Code

UN number : UN 1268

Proper shipping name : PETROLEUM DISTILLATES, N.O.S.

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Class : 3
Packing group : II
Labels : 3
Marine pollutant : yes

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

Not applicable for product as supplied. MARPOL Annex 1 rules apply for bulk shipments by sea.

Special precautions for user

Remarks : Special Precautions: Refer to Chapter 7, Handling & Storage,

for special precautions which a user needs to be aware of or

needs to comply with in connection with transport.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ	Calculated product RQ
		(lbs)	(lbs)
benzene	71-43-2	10	200
toluene	108-88-3	100	100 (F005)
Xylene	1330-20-7	100	100 (F003)
Ethylbenzene	100-41-4	100	100 (F003)
benzene	71-43-2	10	10 (D018)

^{*:} Vertex HSSE classifies this material as an "oil" under the CERCLA Petroleum Exclusion, therefore re-leases to the environment are not reportable under CERCLA., The components with RQs are given for information.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)

Skin corrosion or irritation

Aspiration hazard Reproductive toxicity Germ cell mutagenicity

Carcinogenicity

Specific target organ toxicity (single or repeated exposure)

SARA 313 : The following components are subject to reporting levels es-

tablished by SARA Title III, Section 313:

toluene 108-88-3 >= 30 - < 50 %

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		Xylene	1330-20-7	>= 20 - < 30 %
		n-Hexane	110-54-3	>= 20 - < 30 %
		Ethylbenzene	100-41-4	>= 10 - < 20 %
		benzene	71-43-2	>= 5 - < 10 %
		cyclohexane	110-82-7	>= 5 - < 10 %
		cumene	98-82-8	>= 5 - < 10 %
		Naphthalene	91-20-3	>= 1 - < 5 %

Clean Water Act

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

toluene	108-88-3	35 %
Xylene	1330-20-7	25 %
Ethylbenzene	100-41-4	10 %
benzene	71-43-2	5 %
cyclohexane	110-82-7	5 %
Naphthalene	91-20-3	1 %

US State Regulations

Pennsylvania Right To Know

Naphtha (petroleum), hydrotreated heavy toluene Xylene n-Hexane Ethylbenzene cyclohexane	64742-48-9 108-88-3 1330-20-7 110-54-3 100-41-4 110-82-7
n-Hexane	110-54-3
Ethylbenzene	100-41-4
cyclohexane	110-82-7
cumene	98-82-8
benzene	71-43-2
Naphthalene	91-20-3

California Prop. 65

WARNING: This product can expose you to chemicals including Ethylbenzene, benzene, cumene, Naphthalene, which is/are known to the State of California to cause cancer, and toluene, benzene, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances

toluene	108-88-3
Xylene	1330-20-7
n-Hexane	110-54-3
Ethylbenzene	100-41-4
cyclohexane	110-82-7
cumene	98-82-8
benzene	71-43-2
Naphthalene	91-20-3

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California Regulated Carcinogens

benzene 71-43-2

Other regulations:

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

The components of this product are reported in the following inventories:

TSCA : All components listed.

SECTION 16. OTHER INFORMATION

Further information

NFPA Rating (Health, Fire, Reac- 1, 3, 0

tivity)

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)

OSHA CARC : OSHA Specifically Regulated Chemicals/Carcinogens
OSHA P0 : USA. OSHA - TABLE Z-1 Limits for Air Contaminants -

1910.1000

OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Lim-

its for Air Contaminants

OSHA Z-2 : USA. Occupational Exposure Limits (OSHA) - Table Z-2

ACGIH / TWA : 8-hour, time-weighted average ACGIH / STEL : Short-term exposure limit

OSHA CARC / PEL : Permissible exposure limit (PEL)

OSHA CARC / STEL : Excursion limit

OSHA P0 / TWA : 8-hour time weighted average
OSHA P0 / STEL : Short-term exposure limit
OSHA Z-1 / TWA : 8-hour time weighted average
OSHA Z-2 / TWA : 8-hour time weighted average
OSHA Z-2 / CEIL : Acceptable ceiling concentration

OSHA Z-2 / Peak : Acceptable maximum peak above the acceptable ceiling con-

centration for an 8-hr shift

Abbreviations and Acronyms : The standard abbreviations and acronyms used in this docu-

ment can be looked up in reference literature (e.g. scientific

dictionaries) and/or websites.

ACGIH = American Conference of Governmental Industrial

Hygienists

ADR = European Agreement concerning the International

Carriage of Dangerous Goods by Road

AICS = Australian Inventory of Chemical Substances ASTM = American Society for Testing and Materials

BEL = Biological exposure limits

BTEX = Benzene, Toluene, Ethylbenzene, Xylenes

CAS = Chemical Abstracts Service

CEFIC = European Chemical Industry Council

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CLP = Classification Packaging and Labelling

COC = Cleveland Open-Cup

DIN = Deutsches Institut fur Normung DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level

DSL = Canada Domestic Substance List

EC = European Commission

EC50 = Effective Concentration fifty

ECETOC = European Center on Ecotoxicology and Toxicology Of Chemicals

ECHA = European Chemicals Agency

EINECS = The European Inventory of Existing Commercial

Chemical Substances

EL50 = Effective Loading fifty

ENCS = Japanese Existing and New Chemical Substances Inventory

EWC = European Waste Code

GHS = Globally Harmonised System of Classification and Labelling of Chemicals

IARC = International Agency for Research on Cancer

IATA = International Air Transport Association

IC50 = Inhibitory Concentration fifty

IL50 = Inhibitory Level fifty

IMDG = International Maritime Dangerous Goods

INV = Chinese Chemicals Inventory

IP346 = Institute of Petroleum test method N° 346 for the determination of polycyclic aromatics DMSO-extractables

KECI = Korea Existing Chemicals Inventory

LC50 = Lethal Concentration fifty

LD50 = Lethal Dose fifty per cent.

LL/EL/IL = Lethal Loading/Effective Loading/Inhibitory loading

LL50 = Lethal Loading fifty

MARPOL = International Convention for the Prevention of Pollution From Ships

NOEC/NOEL = No Observed Effect Concentration / No Ob-

served Effect Level

OE HPV = Occupational Exposure - High Production Volume

PBT = Persistent, Bioaccumulative and Toxic

PICCS = Philippine Inventory of Chemicals and Chemical Substances

PNEC = Predicted No Effect Concentration

REACH = Registration Evaluation And Authorisation Of Chemicals

RID = Regulations Relating to International Carriage of Dangerous Goods by Rail

SKIN_DES = Skin Designation

STEL = Short term exposure limit

TRA = Targeted Risk Assessment

TSCA = US Toxic Substances Control Act

TWA = Time-Weighted Average

vPvB = very Persistent and very Bioaccumulative

This product is intended for use in closed systems only.

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Due to a change in detail in Section 15, this document has been released as a significant change.

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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