

SAFETY DATA SHEET

Enterprise Products



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Natural Gasoline

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Natural Gasoline

GENERAL USE: Process stream, fuels production.

DISTRIBUTOR

Enterprise Products
1100 Louisiana
Houston, TX 77002
Corporate Contact: 888-806-3794

24 HR. EMERGENCY TELEPHONE NUMBERS

CHEMTREC: 1-800-424-9300

Emergency Telephone Number(s) may be used for any type of emergency response, hazmat, regulatory responding, or DOT information regarding this product.

COMMENTS: There are no restrictions in regards to the Emergency Telephone Number(s) provided.

2. HAZARDS IDENTIFICATION

HAZARD DESIGNATION





- "F+" – Extremely Flammable
- "N" – Dangerous for the Environment
- "T" – Toxic
- "Xn" – Harmful

GHS CLASSIFICATIONS

Health	Environmental	Physical
Acute Toxicity (Dermal), Category 2 Aspiration Hazard, Category 1 Carcinogenicity, Category 1A Eye Irritation, Category 2A Reproductive Toxicity, Category 2 Skin Irritant, Category 2 Target Organ Toxicity (Single Exposure), Category 3 Target Organ Toxicity (Repeated Exposure), Category 1	Acute Hazards to the Aquatic Environment, Category 2 Chronic Hazards to the Aquatic Environment, Category 2	Flammable Liquids, Category 1

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GHS LABELS

 Flame	 Health hazard
DANGER	DANGER
H224: Extremely flammable liquid and vapor.	H350: May cause cancer. H304: May be fatal if swallowed and enters airways.
 Health hazard	 Exclamation mark
WARNING	WARNING
H373: May cause damage to organs through prolonged or repeated exposure. H336: May cause drowsiness or dizziness.	H320: Causes serious eye irritation.
H411: Toxic to aquatic life with long lasting effects.	WARNING
	H316: Causes mild skin irritation.
PRECAUTIONARY STATEMENT(S) <p>Prevention:</p> <p>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. P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge. P260: Do not breathe dust/fume/gas/mist/vapors/spray. P261: Avoid breathing dust/fume/gas/mist/vapors/spray. P264: Wash exposed skin and outer wear 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. P241: Use explosion-proof electrical / ventilating / lighting / transportation devices / other equipment associated with this product.</p> <p>Response:</p> <p>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 to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338: 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 or doctor/physician if you feel unwell. P314: Get medical advice/attention if you feel unwell.</p>	

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P332+P313: If skin irritation occurs: Get medical advice/attention.
P337+P313: If eye irritation persists: Get medical advice/attention.
P370+P378: In case of fire: Use a Class B, multipurpose dry chemical, or carbon dioxide fire extinguisher for extinction.
P391: Collect spillage.
P362: Take off contaminated clothing and wash before reuse.

Storage:

P235: Keep cool.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.

Disposal:

P501: Dispose of contents/container in accordance with local/regional/national/international regulations

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Clear, colorless to pale yellow liquid.

IMMEDIATE CONCERNS: This product is a flammable liquid which may be harmful if ingested, inhaled, comes in contact with skin or eyes or is released into the environment. Please read entire contents of Section 2 of this SDS for details.

POTENTIAL HEALTH EFFECTS

EYES: Eye contact with vapors may cause eye irritation, watering of eyes and reddening. Eye contact with liquid may cause irritation, and pain. Prolonged contact may result in tissue damage.

SKIN: Skin contact may cause irritation and redness. Repeated or prolonged skin contact may cause dermatitis. Skin contact may cause dryness, itching, and cracked skin.

SKIN ABSORPTION: Absorption from prolonged or repeated skin contact may cause systemic toxicity.

INGESTION: Aspiration hazard if swallowed. Can enter lungs and cause damage and death. Ingestion may cause gastrointestinal disturbances, such as irritation, nausea, vomiting, diarrhea, and central nervous system effects.

INHALATION: May be slightly toxic if inhaled. Breathing of the mists, vapors or fumes may irritate the nose, throat and lungs. Symptoms may include sore throat, coughing, labored breathing, sneezing and burning sensation, depending on the concentration and duration of exposure. May cause central nervous system (CNS) depression or effects. Symptoms may include headache, excitation, euphoria, dizziness, incoordination, drowsiness, light-headedness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death, depending on concentration and duration of exposure. Repeated or prolonged exposures may cause behavioral changes. This product may release hydrogen sulfide gas, which is highly toxic. Hydrogen sulfide can cause respiratory paralysis and death, depending on the concentration and duration of exposure. Do not rely on ability to smell vapors, since odor fatigue rapidly occurs. Effects of overexposure include irritation of the nose and throat, nausea, vomiting, diarrhea, abdominal pain and signs of CNS depression, irregular heartbeats, pulmonary edema, weakness and convulsions.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

ACUTE TOXICITY: May cause adverse health effects if ingested. May cause irritation if inhaled or absorbed through skin. Prolonged or repeated contact may defat the skin and/or cause irritation to skin and eyes. Fire will produce irritating, toxic gases. Vapors may cause dizziness or suffocation.

CHRONIC EFFECTS: Chronic exposure to benzene may cause serious damage to health by all routes of exposure. Chronic oral and inhalation exposure may cause severe effects on the blood system, including damage to the bone marrow, leading to a decrease in production or changes to the cells of hemoglobin, hematocrit, red and white blood cells. Effects may occur with an exposure level as low as 10 ppm for 24

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weeks. Benzene may also cause harmful changes to the immune system. Benzene is a confirmed human carcinogen. See Section 11 (Toxicological Information) for further information. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage (sometimes referred to as solvent or painter's syndrome). Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal.

CARCINOGENICITY: OSHA reports an 8-hour TWA of 1ppm. The NTP and ARC list benzene as a "human carcinogen."

MUTAGENICITY: This product has been shown to be positive in mutagenicity assays.

REPRODUCTIVE TOXICITY

REPRODUCTIVE EFFECTS: This product contains small amounts of C9 aromatics, which may cause adverse reproductive and/or developmental effects. Pregnant women may be at an increased risk for exposure.

TERATOGENIC EFFECTS: Not Established.

MEDICAL CONDITIONS AGGRAVATED: Benzene: Pre-existing blood system disorders, respiratory conditions, central nervous, liver, kidney, and cardio-vascular conditions may be aggravated by severe or chronic overexposure to benzene. Skin disorders may also be aggravated by exposures to benzene.

ROUTES OF ENTRY: Inhalation, skin contact, ingestion.

TARGET ORGAN STATEMENT: May cause damage to lungs, skin, kidneys and central nervous system and respiratory system.

SENSITIZATION: This product may cause cardiac sensitization, including arrhythmias (irregular heart beats) and death due to cardiac arrest.

OTHER HAZARDS: This product contains n-Hexane, which is a skin, eye and respiratory tract irritant. It is a cardiac sensitizer, central nervous system depressant and neurotoxin. Acute exposure may result in dizziness, asphyxia, anesthesia, brain damage and cardiac arrest at high concentrations. Repeated or prolonged exposure may result in peripheral neuropathy, characterized by progressive weakness, facial and limb numbness, color vision abnormalities and paralysis of the limbs. It has been observed to cause damage to the testes and fetal effects in a two generation animal study. NTP has reported it to cause liver tumors in female mice. Persons with skin, lung or kidney disorders may be at increased risk.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Vol. %	CAS	EINECS	Classification
Natural Gasoline	95 - 100	8006-61-9	232-349-1	T; R45, R46, R65
Isoparaffins	75-95	N/E	N/E	
Isopentane	1 – 35	78-78-4	201-142-8	F, Xn; R11, R38, R48/20, R63, R65, R67
Neopentane	1 – 35	463-82-1	201-343-7	F+; N; R12, R51/53
Pentane	1 - 25	109-66-0	203-692-4	F+,Xn, N; R12, R51/53, R65, R66, R67
Hexane	1 - 16	110-54-3	203-777-6	F, Xn, N; R11, R38, R48/20, R62, R65, R67, R51/53
n-Butane	1 – 8	106-97-8	203-448-7	F+; R12

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Chemical Name	Vol. %	CAS	EINECS	Classification
Cyclohexane	0 – 5	110-82-7	203-806-2	F, Xn, N; R11, R38, R65, R67, R50/53
Benzene	0 – 3.5	71-43-2	200-753-7	F, T; R45, R46, R11, R36/38, R48/23/24/25, R65
Toluene	0 - 3	108-88-3	203-625-9	F, Xn; R11, R38, R48/20, R63, R65, R67
Hydrogen Sulfide	Trace	7783-06-3	231-977-3	F+, T+, N; R12, R26, R50

COMMENTS: Natural gasoline is a complex combination of hydrocarbons consisting predominantly of saturated aliphatic hydrocarbons in range C4-C10 and may also include components not listed.

(Full text of R-Phrases can be found under heading 16)

4. FIRST AID MEASURES

EYES: Immediately flush with large amounts of water, holding eyelids open, for at least 20 minutes. Repeat if necessary. Remove contact lenses, if present and easy to do. Seek medical assistance if irritation persists.

SKIN: Immediately remove contaminated clothing or shoes, wipe excess from skin and flush with plenty of water for at least 15 minutes. Do not reuse clothing until thoroughly cleaned. Get medical attention.

INGESTION: Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Slowly give 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

INHALATION: Move victim to fresh air. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Get medical attention.

ANTIDOTES: Not Established.

NOTES TO PHYSICIAN: Aspiration of low viscosity petroleum hydrocarbons may cause severe pneumonitis. Vomiting should not be induced. In unconscious victims, use of an endotracheal tube should be considered, if gastric lavage is undertaken. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours. In cases of acute poisoning, artificial respiration with administration of oxygen may be useful for support. **DO NOT GIVE EPINEPHRINE, EPHEDRINE OR SIMILAR ADRENERGIC DRUGS. THEY MAY INDUCE FATAL VENTRICULAR FIBRILLATION.** Electrocardiographic monitoring should be carried out with severely ill patients to anticipate possible cardiac arrest. Anemia may require the usual supportive measures. Medical evaluation of acute overexposure should include hematological determinations until stable. In severe acute and chronic poisoning, both renal and hepatic damage may occur and should be anticipated in such cases. Respiratory and pulmonary problems may require special attention. After severe acute symptoms have been alleviated, it may be advisable to consider periodic monitoring of the patient until such time as the likelihood of other adverse effects can be discounted. Inhalation abuse: Gasoline is one of the solvents used by chemical substance abusers. These patients may present acute or chronic CNS signs or symptoms as well as arrhythmias.

ADDITIONAL INFORMATION: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First Aid Responders are advised to wear personal protective equipment as found in Section 8.

CONTRAINDICATIONS: Not Established.

5. FIRE FIGHTING MEASURES

FLASH POINT: -43°C (-45°F) Cleveland Open Cup (COC).

FLAMMABLE LIMITS: 1.4% to 7.6%

NOTES: Based on NFPA Gasoline.

AUTOIGNITION TEMPERATURE: 257°C (495°F) to 454°C (850°F)

FLAMMABLE CLASS: Class B.

DECOMPOSITION TEMPERATURE: Not Established.

EXTINGUISHING MEDIA:

SMALL FIRE - Class B fire extinguisher, carbon dioxide, multipurpose dry chemical, water fog or alcohol-resistant foam.

LARGE FIRE - Water fog or alcohol-resistant foam.

INAPPROPRIATE EXTINGUISHING MEDIA: Do not use water jet.

HAZARDOUS COMBUSTION PRODUCTS: Any combustion, including incomplete combustion, may form carbon monoxide, carbon dioxide, sulfur oxides and reactive hydrocarbons. Burning produces noxious and toxic fumes. Downwind personnel must be evacuated.

FIRE FIGHTING PROCEDURES: PROTECTIVE ACTIONS TO TAKE DURING FIRE FIGHTING – Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Evacuate 800 meters (1/2 mile) in all directions. Persons involved in firefighting response involving this product and its containers/packaging should refer to Section 8 of this SDS for the proper selection of exposure controls and personal protective equipment.

FIRE FIGHTING EQUIPMENT: PRECAUTIONS FOR FIRE INVOLVING TANKS OR CAR/TRAILER LOADS - Isolate and evacuate area for 800 meters (1/2 mile) in all directions. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire.

FIRE EXPLOSION: HIGHLY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated.

SENSITIVE TO STATIC DISCHARGE: Flowing gasoline can be ignited by self-generated static electricity; containers should be grounded and bonded.

SENSITIVITY TO IMPACT: Not Established.

SPECIFIC HAZARDS THAT MAY ARISE FROM THE PRODUCT: Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger. Sudden reaction and fire may result if product is mixed with an oxidizing agent.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: For emergency information and procedures to follow in the case of an accidental release, call the Emergency Telephone Number(s) listed in Section 1. In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations. Dike far ahead of liquid spill for later disposal. Never discharge releases directly into sewers or surface waters. Remove any ignition sources and protect from ignition. Water

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spray may reduce vapor; but may not prevent ignition in closed spaces. A vapor suppressing foam may be used to reduce vapors. Provide sufficient ventilation in the affected area(s) and wear appropriate personal protective equipment as indicated in Section 8 when handling spill material.

LARGE SPILL: Use similar response procedures as indicated under Small Spill.

MATERIALS & METHODS (EQUIPMENT & TECHNIQUES) FOR CONTAINMENT & CLEANUP: Call Emergency Telephone Number(s) provided in Section 1 of this SDS. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. For a large spill, consider initial downwind evacuation for at least 300 meters (1000 feet). Use clean non-sparking tools to collect absorbed material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing indicated in Section 8 of this SDS.

ENVIRONMENTAL PRECAUTIONS: Avoid contact of spilled material with soil and prevent runoff entering surface waterways. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SPECIAL PROTECTIVE EQUIPMENT: EMERGENCY & NON-EMERGENCY RESPONDERS - Refer to Section 8 of this SDS for appropriate exposure controls and personal protective equipment (PPE).

INAPPROPRIATE CONTAINMENT & CLEANUP TECHNIQUES: Not Established.

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Handle in accordance with good industrial hygiene and safety practices. These practices include but are not limited to avoiding unnecessary exposure and prompt removal of material from eyes, skin and clothing. If needed, take first aid actions as indicated in Section 4 of this SDS.

HANDLING: Use only with adequate ventilation. Wear appropriate personal protective equipment and use exposure controls as indicated in Section 8. Hydrogen sulfide may collect in container head space. Vent slowly to the atmosphere when opening. Avoid all contact with skin and eyes. Avoid breathing product dust or vapors. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Do not reuse container. Remove contaminated clothing immediately. Wash with soap and water after working with this product.

STORAGE: Keep in airtight container away from all heat sources. Store in a segregated and approved area. Store in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Keep container in a well-ventilated area. Store away from incompatible materials. Store in the original container or an approved alternative made from compatible material. Storage containers should be grounded and bonded. Drums must be grounded and bonded and equipped with self-closing valves, pressure vacuum bungs and flame arresters. Do not store in unlabeled containers. Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. Treat empty containers in a similar fashion as residual product may exist. Use appropriate containment to avoid environmental contamination.

STORAGE TEMPERATURE: Store in a room with ambient temperature.

STORAGE PRESSURE: Containers should be stored in room with ambient pressure.

ELECTROSTATIC ACCUMULATION HAZARD: Not Established.

SHELF LIFE: HOW TO MAINTAIN THE INTEGRITY OF THE SUBSTANCE BY USE OF STABILIZERS OR ANTIOXIDANTS – Not Established.

SPECIAL SENSITIVITY: HOW TO CONTROL THE EFFECTS OF WEATHER CONDITIONS, SUNLIGHT, HUMIDITY & VIBRATION - Not Established.

HOW TO AVOID EXPLOSIVE ATMOSPHERES, CORROSIVE CONDITIONS, FLAMMABILITY HAZARDS, EVAPORATIVE CONDITIONS & POTENTIAL IGNITION SOURCES: Not Established.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)					
		EXPOSURE LIMITS			
		OSHA PEL		ACGIH TLV	
Chemical Name		ppm	mg/m ³	ppm	mg/m ³
Natural Gasoline	TWA	300 ^[1]	890 ^[1]	N/E	N/E
	STEL	500 ^[1]	1480 ^[1]	N/E	N/E
Isoparaffins	TWA	N/E	N/E	N/E	N/E
	STEL	N/E	N/E	N/E	N/E
Isopentane	TWA	N/E	N/E	600	N/E
	STEL	N/E	N/E	N/E	N/E
Neopentane	TWA	N/E	N/E	600	N/E
	STEL	N/E	N/E	N/E	N/E
Pentane	TWA	1000	2950	600	N/E
	STEL	N/E	N/E	N/E	N/E
Hexane	TWA	500	1800	50	180
	STEL	N/E	N/E	N/E	N/E
n-Butane	TWA	N/E	N/E	1000	N/E
	STEL	N/E	N/E	N/E	N/E
Cyclohexane	TWA	300	1050	100	350
	STEL	N/E	N/E	N/E	N/E
Benzene	TWA	1	N/E	0.5	N/E
	STEL	5	N/E	2.5	N/E
Toluene	TWA	200	N/E	50	188
	STEL	300	N/E	N/E	N/E
Hydrogen Sulfide	TWA	N/E	N/E	1	1.4
	STEL	C20; 50	N/E	5	7
Footnotes:					
1. Bulk Handling.					

ENGINEERING CONTROLS: Provide adequate general and local exhaust ventilation. Provide readily accessible eye wash stations and emergency showers.

PERSONAL PROTECTIVE EQUIPMENT

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EYES AND FACE: Employees should be provided with and required to use splash-proof safety goggles and splash shields where there is any possibility of product coming in contact with eyes. Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of contact lenses. Ensure that eye wash station is operable and nearby.

SKIN: GLOVES AND BOOTS - Natural rubber, neoprene rubber, or nitrile rubber gloves. Wear chemical resistant clothing and rubber boots when potential for contact with the material exists.

RESPIRATORY: Depending on airborne concentration a full-face supplied air respirator is recommended, because air purifying respirators cannot provide adequate protection.

PROTECTIVE CLOTHING: Chemical resistant apron or protective suit if splashing or repeated contact with solution is likely.

WORK HYGIENIC PRACTICES: Consider the potential hazards of this material, applicable exposure limits, job activities, environmental working conditions, and other substances in the workplace when designing engineering controls and selecting personal protective equipment (PPE). The user should read and understand all manufacturer instructions and limitations supplied with the personal protection equipment before use.

PPE PICTOGRAMS:



9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR: Hydrocarbon odor.

APPEARANCE: Clear, colorless to pale yellow liquid.

pH: Not Established.

PERCENT VOLATILE: 100

VAPOR PRESSURE: 12-14 PSI at 38°C (100°F)

VAPOR DENSITY: 3.0 - 4.0 at 16 to 32°C (60 to 90°F) (Air = 1)

BOILING POINT: -20°C (-4°F) to 199°C (390°F) 760 mmHg

FREEZING POINT: Not Established.

MELTING POINT: Not Established.

FLASH POINT: -43°C (-45°F); Cleveland Open Cup (COC).

SOLUBILITY IN WATER: Negligible.

EVAPORATION RATE: > 1 (Moderately fast)

SPECIFIC GRAVITY: 0.500 to 0.72 at 16°C (60°F)

VISCOSITY: Not Established.

COEFF. OIL/WATER: PARTITION COEFF. n-OCTANOL/WATER - Not Established.

ODOR THRESHOLD: Not Established.

FLAMMABILITY: Refer to Section 2 and Section 5 of this SDS for classification and flammability characteristics.

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10. STABILITY AND REACTIVITY

STABLE: Yes

HAZARDOUS POLYMERIZATION: No

STABILITY: This product is anticipated to be stable under normal ambient storage and handling conditions of temperature and pressure.

POLYMERIZATION: This product is not anticipated to cause hazardous reactions or polymerizations under normal ambient storage and handling conditions of temperature and pressure.

CONDITIONS TO AVOID: Avoid contact with incompatible materials. Avoid exposure to oxidizing agents, heat, spark, flame and buildup of static electricity.

HAZARDOUS DECOMPOSITION PRODUCTS: of thermal decomposition may include sulfur oxides, carbon oxides, and nitrogen oxides.

INCOMPATIBLE MATERIALS: Avoid contact with oxidizing agents, halogens, strong acids, and strong bases. Refer to Section 5 in this SDS for additional information.

STABILIZERS: Not Established.

11. TOXICOLOGICAL DATA

ACUTE

Chemical Name	ORAL LD ₅₀ (rat)	Dermal LD ₅₀ (rabbit)	INHALATION LC ₅₀ (rat)
Natural Gasoline	N/E	N/E	300 g/m ³
Isoparaffins	N/E	N/E	N/E
Isopentane	N/E	N/E	280000 mg/m ³
Neopentane	N/E	N/E	N/E
Pentane	N/E	> 2000 mg/kg	≤ 364 g/m ³
Hexane	25 mg/kg	N/E	48,000 ppm (4 hours)
n-Butane	N/E	N/E	658 g/m ³
Cyclohexane	12705 mg/kg	N/E	13.9 mg/L (4 hours)
Benzene	930 mg/kg	> 9400 ug/kg	10000 ppm (7 hours)
Toluene	636 mg/kg	14100 mg/kg	49 g/m ³ (4 hours)
Hydrogen Sulfide	N/E	N/E	444 ppm

EYES: Information given is based on the evaluation of data for similar materials or product components. This product is expected to cause irritation to the eyes.

SKIN EFFECTS: Information given is based on the evaluation of data for similar materials or product components. This product is expected to cause mild irritation to the skin.

SKIN ABSORPTION: Toxicological data does not exist for this mixture.

TOXICITY & HEALTH EFFECTS:

ACUTE - Refer to Section 2 for additional hazards identification.

CHRONIC - Laboratory animal studies have shown that prolonged and repeated inhalation exposure to light

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hydrocarbon vapors in the same boiling range as this product can produce adverse kidney effects in male rats. However, these effects were not observed in similar studies with female rats, male and female mice, or in limited studies with other animal species. Additionally, in a number of human studies, there was no clinical evidence of such effects at normal occupational levels. In 1991, the U.S. EPA determined that the male rat kidney is not useful for assessing human risk. Vapor concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema. Unleaded gasoline caused cancer in animal tests. Chronic inhalation studies resulted in liver tumors in female mice and kidney tumors in male rats. Neither result was considered significant for human health risk assessment by the U.S. EPA and others. It did not cause mutations in vitro or in vivo. This product was negative in inhalation developmental studies and reproductive toxicity studies. Inhalation of high concentrations in animals resulted in reversible central nervous system depression but no persistent toxic effect on the nervous system. This product is non-sensitizing in test animals. It caused nerve damage in humans from abusive use (snuffing).

CARCINOGENICITY

Chemical Name	NTP Status	IARC Status	OSHA Status
Toluene		3	
Benzene	1	1	Carcinogen

NOTES: This material may contain benzene. Benzene is carcinogenic to laboratory animals when given by intubation or by inhalation. There is an association between occupational exposure to benzene and human leukemia. Acute benzene poisoning causes central nervous system depression. Chronic exposure affects the hematopoietic system causing blood disorders including anemia and pancytopenia. Mutagenic and clastrogenic in mammalian and non-mammalian test systems. Reproductive or developmental toxicant only at doses that are maternally toxic, based on tests with animals. Wholly vaporized unleaded gasoline produced an increased incidence of liver cancers in female mice and kidney cancers in male rats following a two-year inhalation period. Subsequent investigations indicate that kidney damage, linked to kidney cancer, may be specific to the male rat. IARC has determined that there is limited evidence of the carcinogenicity of unleaded gasoline exhaust particles produced skin cancer in laboratory animals, leading IARC to categorize gasoline engine exhaust as a possible human cancer hazard.

IRRITATION: Skin irritation develops slowly after contact. Eye irritation develops upon contact with vapor. Skin defatting may include drying and reddening of the skin. Irritation of respiratory tract. Inhalation may cause narcosis. Aspiration into lungs may occur directly or following ingestion. This can cause chemical pneumonitis, which may be fatal.

SENSITIZATION: n-Hexane may be cause cardiac sensitization.

REPRODUCTIVE EFFECTS: Exposure may cause reproductive effects. See Section 2 of this (M)SDS for more information.

NEUROTOXICITY: Not Established.

GENETIC EFFECTS: Not Established.

TERATOGENIC EFFECTS: Not Established.

MUTAGENICITY: Exposure may cause mutagenistic effects.

SYNERGISTIC MATERIALS: Not Established.

INTERACTIVE EFFECTS: Not Established.

12. ECOLOGICAL DATA

ENVIRONMENTAL DATA: MOBILITY IN SOIL POTENTIAL - Not established for this mixture, however this mixture contains volatile constituents. Partly evaporates from water or soil surfaces, but significant proportion will remain after one day. If the product enters the soil, one or more constituents will or may be mobile and may contaminate groundwater.

ECOTOXICOLOGICAL INFORMATION: This product has no known ecotoxicological effects.

TERRESTRIAL/MICROORGANISM TOXICITY -

ACUTE: Ecological data does not exist for this mixture.

CHRONIC: Ecological data does not exist for this mixture.

BIOACCUMULATION/ACCUMULATION: Has the potential to bioaccumulate.

AQUATIC TOXICITY:

ACUTE - This product is expected to be harmful to aquatic life.

CHRONIC- May cause long lasting harmful effects to aquatic life.

CHEMICAL FATE INFORMATION: PERSISTENCE & DEGRADABILITY - Major constituents are inherently biodegradable, but contains components that may persist in the environment. The volatile constituents will oxidize rapidly by photochemical reactions in air.

GENERAL COMMENTS: Any other adverse environmental effects, such as environmental fate (exposure), ozone depletion potential, photochemical ozone creation potential, endocrine disrupting potential, and global warming potential are indicated in this section if data exists. Data from laboratory studies and from scientific literature is noted in this section, if available. Otherwise, data has not been established.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: It is recommended that this product, in any form, be incinerated in a suitable combustion chamber for disposal. Empty containers should be disposed of in a similar fashion due to presence of product residue. Follow applicable Federal, state, and local regulations.

PRODUCT DISPOSAL: Persons conducting disposal of this product and its containers/packaging should refer to Section 8 of this SDS for the proper selection of exposure controls and personal protective equipment.

EMPTY CONTAINER: Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death.

PHYSICAL & CHEMICAL PROPERTIES THAT MAY AFFECT DISPOSAL OPTIONS: Not Established.

COMMENTS: Dispose of material in accordance with national, state, regional, and local regulations. Never discharge directly into sewers or surface water. Consult with environmental regulatory agencies for guidance on acceptable disposal practices for the product, in any form, and its containers/packaging.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Petroleum crude oil.

PRIMARY HAZARD CLASS/DIVISION: 3

UN/NA NUMBER: 1267

PACKING GROUP: III

Natural Gasoline

NAERG: 128

MARINE POLLUTANT: Not Listed.

VESSEL (IMO/IMDG)

SHIPPING NAME: Petroleum crude oil.

UN/NA NUMBER: 1267

PRIMARY HAZARD CLASS/DIVISION: 3

PACKING GROUP: III

MARINE POLLUTANT: Not Listed.

15. REGULATORY INFORMATION

UNITED STATES

DOT LABEL SYMBOL AND HAZARD CLASSIFICATION



SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: Fire, Immediate (Acute) Health Effects, Delayed (Chronic) Health Effects

FIRE: Yes **PRESSURE GENERATING:** No **REACTIVITY:** No **ACUTE:** Yes **CHRONIC:** Yes

EPCRA SECTION 313 SUPPLIER NOTIFICATION

Chemical Name	Vol. %	CAS
Hexane	1 – 16	110-54-3
Cyclohexane	0 – 5	1--=82-7
Benzene	0 – 3.5	71-43-2
Toluene	0 – 3	108-88-3

302/304 EMERGENCY PLANNING

EMERGENCY PLAN: None of the components listed in this product are listed.

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: A release of this product, as supplied, is exempt from reporting under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) by the petroleum exclusion.

Chemical Name	Vol. %	CERCLA RQ
Hexane	1 – 16	5000
Cyclohexane	0 – 5	1000
Benzene	0 – 3.5	10
Toluene	0 – 3	1000
Hydrogen Sulfide	Trace	100

Natural Gasoline

TSCA (TOXIC SUBSTANCE CONTROL ACT)

Chemical Name	CAS
Natural Gasoline	8006-61-9
Isoparaffins	N/E
Isopentane	78-78-4
Neopentane	463-82-1
Pentane	109-66-0
Hexane	110-54-3
n-Butane	106-97-8
Cyclohexane	110-82-7
Benzene	71-43-2
Toluene	108-88-3
Hydrogen Sulfide	7783-06-3

TSCA Status: The components listed in this section are listed on the TSCA inventory.

STATES WITH SPECIAL REQUIREMENTS

Chemical Name	Requirements
Natural Gasoline	CA Hazardous Substance Massachusetts Hazardous Substance Minnesota Hazardous Substance
Isopentane	Delaware Air Quality Management Massachusetts Hazardous Substance New Jersey RTK Hazardous Substance Pennsylvania Hazardous Substance
Neopentane	Delaware Air Quality Management Massachusetts Hazardous Substance New Jersey RTK Hazardous Substance Pennsylvania Hazardous Substance
Pentane	CA Hazardous Substance Delaware Air Quality Management Idaho Air Pollutant Massachusetts Hazardous Substance Minnesota Hazardous Substance New Jersey TCPA EHS New Jersey RTK Hazardous Substance Pennsylvania Hazardous Substance Washington PELs for Air Contaminants
Hexane	Massachusetts Hazardous Substance Delaware Air Quality Management Idaho Air Pollutant Illinois Toxic Air Contaminant Maine Hazardous Air Pollutant Minnesota Hazardous Substance New Jersey RTK Hazardous Substance

Natural Gasoline

Chemical Name	Requirements
	New Jersey RTK Hazardous Substance New York Hazardous Substance North Carolina Toxic Air Contaminant Pennsylvania Hazardous Substance Washington PELs for Air Contaminants Wisconsin Hazardous Air Containment
n-Butane	CA Hazardous Substance Delaware Air Quality Management Massachusetts Hazardous Substance Minnesota Hazardous Substance New Jersey RTK Hazardous Substance Pennsylvania Hazardous Substance Pennsylvania Hazardous Substance Washington PELs for Air Contaminants
Cyclohexane	CA Hazardous Substance Delaware Air Quality Management Idaho Air Pollutant Maine Hazardous Air Pollutant Massachusetts Hazardous Substance Minnesota Hazardous Substance New Jersey RTK Hazardous Substance New York Hazardous Substance Pennsylvania Hazardous Substance Washington PELs for Air Contaminants
Benzene	CA Hazardous Substance Delaware Air Quality Management Illinois Toxic Air Contaminant Maine Hazardous Air Pollutant Massachusetts Hazardous Substance Michigan Critical Material Minnesota Hazardous Substance New Jersey RTK Hazardous Substance New York Hazardous Substance North Carolina Toxic Air Contaminant Pennsylvania Hazardous Substance Washington PELs for Air Contaminants West Virginia Toxic Air Pollutant Wisconsin Hazardous Air Containment
Toluene	CA Hazardous Substance CA Proposition 65 Substance Delaware Air Quality Management Idaho Air Pollutant Illinois Toxic Air Contaminant Maine Hazardous Air Pollutant Massachusetts Hazardous Substance Michigan Critical Material Minnesota Hazardous Substance New Jersey RTK Hazardous Substance New Jersey RTK Hazardous Substance New York Hazardous Substance North Carolina Toxic Air Contaminant

Natural Gasoline

Chemical Name	Requirements
	North Carolina Toxic Air Contaminant Pennsylvania Hazardous Substance Washington PELs for Air Contaminants Wisconsin Hazardous Air Containment
Hydrogen Sulfide	CA Hazardous Substance Delaware Air Quality Management Idaho Air Pollutant Massachusetts Hazardous Substance Maine Hazardous Air Pollutant Minnesota Hazardous Substance New Jersey RTK Hazardous Substance New Jersey TCPA EHS New York Hazardous Substance North Carolina Toxic Air Contaminant Pennsylvania Hazardous Substance Washington PELs for Air Contaminants Wisconsin Hazardous Air Containment

CALIFORNIA PROPOSITION 65: Chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm may be found in this product.

Chemical Name	Vol. %	Listed
Toluene	< 3.3	• Female Reproductive
Benzene	< 1.3	• Developmental Toxicity • Male Reproductive

CLEAN WATER ACT: This product contains one more components designated as hazardous substances or toxic pollutants pursuant to the Federal Clean Water Act (40 CFR 116.4 Table A; 40 CFR 401.15). Any unpermitted introduction of this product into a facility storm water or wastewater discharge may constitute a violation of the Clean Water Act. Facilities must notify the appropriate permitting agency prior to introducing this product into the aforementioned discharges. Releases may be reportable to the National Response Center (800-424-8802) under the Clean Water Act, 33 U.S.C. 1321(b)(3) and (5). Check state and local regulations for any regulations for any additional requirements as these may be more restrictive than federal laws and regulations. Failure to report may result in substantial civil and criminal penalties.

CANADA

WHMIS HAZARD SYMBOL AND CLASSIFICATION



WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM):

Class B - Division 2 - Flammable and Combustible Materials.

Class D - Division 2, Subdivision A - Poisonous and Infectious Materials.

EUROPEAN COMMUNITY

EEC LABEL SYMBOL AND CLASSIFICATION

Natural Gasoline



“T” - Toxic



“F” – Highly Flammable



“Xn” – Harmful

16. OTHER INFORMATION

RELEVANT R-PHRASES:

R46: May cause heritable genetic damage.

R65: Harmful: may cause lung damage if swallowed.

R12: Extremely flammable.

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R66: Repeated exposure may cause skin dryness or cracking.

R67: Vapors may cause drowsiness and dizziness.

R11: Highly flammable.

R38: Irritating to skin.

R48/20: Harmful : danger of serious damage to health by prolonged exposure through inhalation.

R62: Possible risk of impaired fertility.

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R36/38: Irritating to eyes and skin.

R63: Possible risk of harm to the unborn child.

R26: Very toxic by inhalation.

REASON FOR ISSUE: This SDS was compiled in conformance with GHS structure and standards, superseding all previous SDS of the aforementioned product(s).

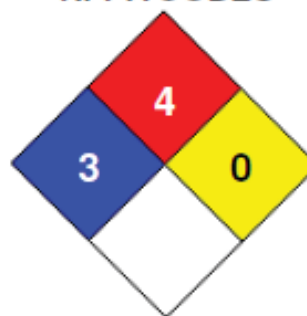
PREPARED BY: Total Safety d/b/a EHS Services

REVISION SUMMARY: This SDS replaces the 06/28/2012 SDS.

HMIS RATING

HEALTH	*	3
FLAMMABILITY		4
PHYSICAL HAZARD		0
PERSONAL PROTECTION		C

NFPA CODES



HMIS RATINGS NOTES: Please refer to Section 8 of this SDS for recommended personal protective equipment.

Natural Gasoline

DATA SOURCES:

REFERENCES

ACGIH. 2012 Guide to Occupational Exposure Values. Cincinnati, OH. Signature Publications, 2012.
Forsberg, K.; Mansdorf, S.Z. Quick Selection Guide to Chemical Protective Clothing. Fifth Edition. Hoboken, NJ. John Wiley & Sons, 2007.
Lide, D.R. CRC Handbook of Chemistry and Physics. 88th Edition. Boca Raton, FL. CRC Press, 2008.
UNECE. Globally Harmonized System of Classification and Labeling of Chemicals (GHS). Third Revised Edition. New York and Geneva. United Nations, 2009.
US DOT; Pipeline and Hazardous Materials Safety Administration. 2008 Emergency Response Guidebook. Neenah, WI. J.J. Keller & Associates, Inc. 2008.
US EPA. Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-To-Know Act (EPCRA) and Section 112(r) of the Clean Air Act. [Available] Online: <http://www.epa.gov/ceppo/pubs/title3.pdf>. Retrieved 02/02/2011.

ADDITIONAL SDS INFORMATION:

KEY / LEGEND

ACGIH - American Conference of Governmental Industrial Hygienists
ADR - Agreement on Dangerous Goods by Road
CAA - Clean Air Act
CAS - Chemical Abstracts Service Registry Number
CDG - Carriage of Dangerous Goods By Road and Rail Manual
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
CFR - Code of Federal Regulations
EINECS - European Inventory of Existing Chemical Substances Registry Number
ERG - Emergency Response Guidebook
EPCRA - Emergency Planning and Community Right-to-Know Act
GHS - Globally Harmonized System of Classification and Labeling of Chemicals
IARC - International Agency for Research on Cancer
IATA - International Air Transport Association
ICAO - International Civil Aviation Organization
IMDG - International Maritime Dangerous Goods Code
IMO - International Maritime Organization
N/E - Not Established
NTP - National Toxicology Program
OSHA - Occupational Safety and Health Administration
PEL - Permissible Exposure Limit
PPE - Personal Protective Equipment
RCRA - Resource Conservation and Recovery Act
RID - Regulations Concerning the International Transport of Dangerous Goods by Rail
RQ - Reportable Quantities
SARA - Superfund Amendments and Reauthorization Act of 1986
SDS - Safety Data Sheet
TCC - Tag Closed Cup
TDG - Transportation of Dangerous Goods
TLV - Threshold Limit Value
TSCA - Toxic Substance Control Act
UN/NA - United Nations / North American Number
UNECE - United Nations Economic Commission for Europe
US DOT - United States Department of Transportation
US EPA - United States Environmental Protection Agency
Vol. - Volume
WHMIS - Workplace Hazardous Materials Information System

GENERAL STATEMENTS: Other information not included anywhere else in this SDS is included in this section if, in fact, such data exists.

Natural Gasoline

MANUFACTURER DISCLAIMER: This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION HEREIN PROVIDED. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.