TOTAL

Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Product name	**Unleaded Gasoline**	In Case of Emergency	**Chemtrec:** (800) 424-9300 **Total Petrochemicals & Refining USA, Inc.:** (800) 322-3462
Supplier	Total Petrochemicals & Refining USA, Inc. P O Box 674411 Houston,TX 77267-4411	Technical Information	**For non-emergency** product information: email product.stewardship@total.com
Chemical Family	Hydrocarbon Mixture	MSDS#	RF0029
CAS Registry Number	86290-81-5	Validation Date	**1/1/2013**
		Print Date	1/1/2013

Synonym: This MSDS covers multiple grades of unleaded gasoline. Gasoline, Regular Gasoline, Mid-Grage Gasoline, Premium Gasoline, Unleaded Gasoline, Regular Unleaded Gasoline, Mid-Grade Unleaded Gasoline, Premium Unleaded Gasoline, Petrol

Section 2. Hazards Identification

Emergency Overview

EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE.

ASPIRATION HAZARD.
HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED.
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

CONTAINS MATERIAL WHICH MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: CENTRAL NERVOUS SYSTEM, SKIN, RESPIRATORY TRACT, EYES, BLOOD, KIDNEYS, LUNGS, LIVER, MUCOUS MEMBRANES, HEART, PERIPHERAL NERVOUS SYSTEM, GASTROINTESTINAL TRACT, BONE MARROW.

CONTAINS MATERIAL WHICH CAN CAUSE CANCER.
CONTAINS MATERIAL WHICH MAY CAUSE BIRTH DEFECTS.

TOXIC TO AQUATIC ORGANISMS.

Routes of Entry

Dermal contact. Eye contact. Inhalation. Ingestion.

Potential Acute Health Effects

Eyes May cause eye irritation.

Skin Moderate irritation with repeated contact. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Some components may be absorbed through the skin.

Inhalation May cause respiratrory tract irritation. Dizziness, irritation of eyes, nose, & throat. Intoxication. Mild anesthesia to unconsciousness. CNS depression. Death from respiratory failure at extremely high concentrations.

Ingestion Aspiration hazard if swallowed. Can enter lungs and cause damage. Burning of throat & stomach, inebriation, vomiting, drowsiness, nausea. Unconsciousness. Death.

Potential Chronic Health Effects

Chronic effects of overexposure are similar to acute effects including central nervous system (CNS) effects & CNS depression, skin dermatitis, and conjunctivitis (eye). Chronic inhalation effects include irritation of the respiratory tract and mucous membranes.

CARCINOGENIC EFFECTS:

Classified Potential Occupational Carcinogen by NIOSH [Gasoline]. Classified 2B (Possible for humans.) by IARC [Gasoline].

Whole gasoline exhaust has been classified as a Group 2B (Possible for humans) by IARC.

Classified 2B (Possible for human.) by IARC [Ethylbenzene], Classified A3 (Animal Carcinogen) by ACGIH [Ethylbenzene].

Benzene is a known human carcinogen.

TERATOGENIC EFFECTS: Toluene is a suspected human TERATOGEN. Toluene may damage the developing fetus.

Medical Conditions Aggravated by Overexposure: Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

Overexposure /Signs/ Symptoms: Chronic effects of overexposure are similar to acute effects including central nervous system (CNS) effects & CNS depression, skin dermatitis, and conjunctivitis (eye). At high concentrations, irregular heartbeats have occurred.

See Toxicological Information (Section 11)

Section 3. Composition and Information on Ingredients

Occupational exposure limits, if available, are listed in Section 8.

Substance Name	CAS #	% by Weight
gasoline	86290-81-5	100
isopentane	78-78-4	<15
toluene	108-88-3	<15
xylene isomers	1330-20-7	<15
n-Butane	106-97-8	<10
ethylbenzene	100-41-4	<10
2-methylpentane	107-83-5	<10
3-methylpentane	96-14-0	<10
1,2,4-trimethylbenzene	95-63-6	<10
pentane	109-66-0	<5
n-Hexane	110-54-3	<5
benzene	71-43-2	<2
2,3-Dimethylbutane	79-29-8	<2
Heptane	142-82-5	<2
methylcyclopentane	96-37-7	<2

Section 4. First Aid Measures

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin Contact: In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Wash the contaminated skin gently and thoroughly with running water and non-abrasive soap. Wash clothing before reuse. Do not re-use contaminated shoes. Get medical attention if symptoms occur.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult , give oxygen. Get medical attention immediately.

Ingestion: If swallowed, do not induce vomiting. Never give anything by mouth to an unconscious person . Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately. If the victim is not breathing, perform mouth-to-mouth resuscitation. If breathing is difficult, administer oxygen.

Section 5. Fire Fighting Measures

Flammability of the Product: Flammable.

Auto-ignition Temperature: 248.9°C (480°F)

Flash Points: CLOSED CUP: <-34.4°C (-29.9°F). (Tagliabue.).

Flammable Limits: LOWER: 1.4% UPPER: 7.6%

Products of Combustion: Decomposition products may include the following materials:
Carbon oxides (CO, CO2) and soot.

Fire Hazards in Presence of Various Substances: Extremely flammable in presence of open flames and sparks, of heat.

Explosion Hazards in Presence of Various Substances: Risks of explosion of the product in presence of mechanical impact: Not expected.
Risks of explosion of the product in presence of static discharge: Will occur.

Fire Fighting Media and Instructions: Recommended: alcohol-resistant foam, CO_2, powders, water spray.

Protective Clothing (Fire)	Wear MSHA/NIOSH approved self-contained breathing apparatus or equivalent and full protective gear (Bunker gear).
Special Remarks on Fire Hazards	Flammable liquid. Do not use near open flames, electric sparks or hot surfaces. Protect from static discharge.
Special Remarks on Explosion Hazards	Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Section 6. Accidental Release Measures

Small Spill and Leak	Absorb with an inert material and transfer the spilled material and absorbent to an appropriate waste disposal container.
Large Spill and Leak	Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with dry earth, sand or other non-combustible material. Do not touch spilled material. Use water spray to reduce vapors. Dike spill area and do not allow product to reach sewage system or surface or ground water. Notify any reportable spill to authorities. (See section 12 for environmental risks and 13 for disposal information.) Call for assistance on disposal.

Section 7. Handling and Storage

Handling

DO NOT fill container in bed of pick-up truck.
DO NOT fill container while container is in vehicle.
Never siphon by mouth.

Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion -proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools . Take precautionary measures against electrostatic discharges. Dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous.

Storage

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Take precautionary measures against static discharges. Ground all equipment containing material.

All efforts should be made to prevent any leaks or spills. Storage tanks containing should be engineered to prevent contact with water resources, as this material could contaminate the water resources. Surface spills can reach groundwater through porous soil or cracked surfaces. The storage tanks should be monitored regularly for leaks. Where spills or leaks are possible, a comprehensive response plan should be developed and implemented.

Section 8. Exposure Controls/Personal Protection

Engineering Controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Personal Protection

Eyes Splash goggles. Safety glasses.
Body Flame retardant clothing covering the entire body.
Respiratory Be sure to use a MSHA/NIOSH approved respirator or equivalent at high concentrations.
Hands Chemical resistant gloves if contact is possible.
Feet Shoes.

Protective Clothing (Pictograms)

Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name	Exposure Limits
gasoline	**ACGIH TLV (United States, 2/2010).** TWA: 890 mg/m³ 8 hour(s). STEL: 1480 mg/m³ 15 minute(s). TWA: 300 ppm 8 hour(s). STEL: 500 ppm 15 minute(s).
isopentane	**ACGIH TLV (United States, 2/2010).** TWA: 600 ppm 8 hour(s).
toluene	**ACGIH TLV (United States, 2/2010).** TWA: 20 ppm 8 hour(s). **OSHA PEL Z2 (United States, 11/2006).** TWA: 200 ppm 8 hour(s). CEIL: 300 ppm AMP: 500 ppm 10 minute(s). **NIOSH REL (United States, 6/2009).** TWA: 100 ppm 10 hour(s). STEL: 150 ppm 15 minute(s).
xylene isomers	**ACGIH TLV (United States, 2/2010).** TWA: 100 ppm 8 hour(s). STEL: 150 ppm 15 minute(s). **OSHA PEL (United States, 11/2006).** TWA: 100 ppm 8 hour(s).
n-Butane	**NIOSH REL (United States, 6/2009).** TWA: 800 ppm 10 hour(s).
ethylbenzene	**OSHA PEL (United States, 11/2006).** TWA: 100 ppm 8 hour(s). **NIOSH REL (United States, 6/2009).** TWA: 100 ppm 10 hour(s). STEL: 125 ppm 15 minute(s). **ACGIH TLV (United States, 2/2010).** TWA: 100 ppm 8 hour(s).
2-methylpentane	**ACGIH TLV (United States, 2/2010).** TWA: 500 ppm 8 hour(s). STEL: 1000 ppm 15 minute(s). **NIOSH REL (United States, 6/2009).** TWA: 100 ppm 10 hour(s). CEIL: 510 ppm 15 minute(s).
3-methylpentane	**ACGIH TLV (United States, 2/2010).** TWA: 500 ppm 8 hour(s). STEL: 1000 ppm 15 minute(s). **NIOSH REL (United States, 6/2009).** TWA: 100 ppm 10 hour(s). CEIL: 510 ppm 15 minute(s).
1,2,4-trimethylbenzene	**ACGIH TLV (United States, 2/2010).** TWA: 25 ppm 8 hour(s). **NIOSH REL (United States, 6/2009).** TWA: 25 ppm 10 hour(s).
pentane	**ACGIH TLV (United States, 2/2010).** TWA: 600 ppm 8 hour(s). **NIOSH REL (United States, 6/2009).** TWA: 120 ppm 10 hour(s). CEIL: 610 ppm 15 minute(s).
n-Hexane	**NIOSH REL (United States, 6/2009).** TWA: 50 ppm 10 hour(s). **ACGIH TLV (United States, 2/2010). Absorbed through skin.** TWA: 50 ppm 8 hour(s).
benzene	**NIOSH REL (United States, 6/2009).** TWA: 0.1 ppm 10 hour(s). STEL: 1 ppm 15 minute(s). **OSHA PEL (United States, 11/2006).** TWA: 1 ppm 8 hour(s). STEL: 5 ppm 15 minute(s). **ACGIH TLV (United States, 2/2010). Absorbed through skin.** TWA: 0.5 ppm 8 hour(s).
2,3-Dimethylbutane	**ACGIH TLV (United States, 2/2010).** TWA: 500 ppm 8 hour(s). STEL: 1000 ppm 15 minute(s). **NIOSH REL (United States, 6/2009).** TWA: 100 ppm 10 hour(s). CEIL: 510 ppm 15 minute(s).
Heptane	**ACGIH TLV (United States, 2/2010).** TWA: 400 ppm 8 hour(s). STEL: 500 ppm 15 minute(s). **NIOSH REL (United States, 6/2009).**

	TWA: 85 ppm 10 hour(s). CEIL: 440 ppm 15 minute(s).
methylcyclopentane	**ACGIH TLV (United States, 2/2010).** TWA: 500 ppm 8 hour(s). STEL: 1000 ppm 15 minute(s). **NIOSH REL (United States, 6/2009).** TWA: 100 ppm 10 hour(s). CEIL: 510 ppm 15 minute(s).

Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Liquid.
Color	Clear (colorless). Amber or red, if dyed.
Odor	Gasoline odor
Odor Threshold	Weighted average: 83 ppm
Molecular Weight	Not applicable.
Molecular Formula	Not applicable.
Boiling/Condensation Point	26.7 to 225°C (80 to 437°F)
Melting/Freezing Point	Weighted average: -92.69°C (-134.8°F)
Critical Temperature	The lowest known value is 288.9°C (552°F) (Benzene).
Specific Gravity	0.75 (Water = 1)
Vapor Pressure	500 to 700 mm of Hg (@ 21.1°C)
Vapor Density	3 to 4 (Air = 1)
Volatility	>99% (v/v).
Evaporation Rate	30 X slower compared to Ethylether
VOC	100 (%)
Ionicity (in Water)	Non-ionic.
Dispersion Properties	Is not dispersed in cold water, hot water.
Solubility in Water	Negligible.
Physical Chemical Comments	No additional remark.

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Conditions of Instability	No additional remark.
Incompatibility with Various Substances	Extremely reactive or incompatible with strong oxidizing agents, nitric acid, and perchlorates.
Hazardous Decomposition Products	Carbon monoxide & carbon dioxide. Oxides of sulfur & nitrogen, benzene, and other hydrocarbons. Dangerously low oxygen levels.
Hazardous Polymerization	No.

Section 11. Toxicological Information

Toxicity to Animals	Product/ingredient name	Result	Species	Dose	Exposure
	gasoline	LD50 Oral	Rat	92 g/kg	-
		LD50 Oral	Rat	13.6 g/kg	-
		LD50 Oral	Rat	14.1 g/kg	
		LD50 Dermal	Rabbit	> 5 mL/kg	
	"Natural Gasoline"	LC50 Inhalation	Rat	300 g/m^3	

Chronic Effects on Humans

Chronic effects of overexposure are similar to acute effects including central nervous system (CNS) effects & CNS depression, skin dermatitis, and conjunctivitis (eye). Chronic inhalation effects include irritation of the respiratory tract and mucous membranes.

CARCINOGENIC EFFECTS:

Classified Potential Occupational Carcinogen by NIOSH [Gasoline]. Classified 2B (Possible for humans.) by IARC [Gasoline].

Whole gasoline exhaust has been classified as a Group 2B (Possible for humans) by IARC.

Classified 2B (Possible for human.) by IARC [Ethylbenzene], Classified A3 (Animal Carcinogen) by ACGIH [Ethylbenzene].

Benzene is a known human carcinogen.

TERATOGENIC EFFECTS: Toluene is a suspected human TERATOGEN. Toluene may damage the developing fetus.

Other Toxic Effects on Humans

Contains material which may cause damage to the following organs: central nervous system, skin, respiratory tract, eyes, blood, kidneys, lungs, liver, mucous membranes, heart, peripheral nervous system, gastrointestinal tract, bone marrow.

Intentional misuse involving repeated and prolonged inhalation exposure to high concentrations of vapor can result in central nervous system damage and eventually **death.**

Special Remarks on Other Toxic Effects on Humans

Aspiration hazard if swallowed. Can enter lungs and cause damage. Death can occur from swallowing gasoline.

Section 12. Ecological Information

Ecotoxicity

Bluegill: LC50 8 ppm/96h, leaded and unleaded gasoline
Grass Shrimp: LC50 1.5 ppm/96h, leaded and unleaded gasoline
Mullet: 2 ppm/96h, unleaded gasoline

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

BOD5 and COD

The BOD5 is 0.08 lb/lb [5 day(s)]

Biodegradable/OECD

Gasoline is expected to readily biodegrade.

Mobility

More volatile components will evaporate to atmosphere quickly. In air, components are photodegraded by reaction with hydroxyl radicals.
Product spreads on the surface of water, but some components may be partially or completely soluble in water.

Section 13. Disposal Considerations

Waste Information

Recycle to process, if possible. Recover free liquid. Transfer to an approved diposal area in accordance with federal, state, and local regulations.

Waste Stream

This material may meet one or more criteria of a hazardous waste.

Consult your local or regional authorities.

Section 14. Transport Information *(for domestic bulk shipments, non-bulk shipments may differ)*

DOT Classification for Bulk Shipments (non bulk shipments may differ)

DOT CLASS 3: Flammable liquid.

Proper Shipping Name/ Description

UN1203, Gasoline, 3, II RQ (Contains Benzene, Xylenes)

UN Number

UN1203

Packing Group

II

Marine Pollutant

Not listed in Appendix B to 49CFR172.101

Hazardous Substances Reportable Quantity

Benzene 10 lbs
Xylenes 100 lbs
Toluene 1000 lbs
Hexane 1000 lbs
Ethylbenzene 1000 lbs

Special Provisions for Transport: See codes as shown in 49 CFR 172.101 column 7.

TDG Classification: 3

IMO/IMDG Classification: 3

ICAO/IATA Classification: 3

USCG Proper Shipping Name: Gasolines: Automotive

Section 15. Regulatory Information

HCS Classification: Flammable liquid
Carcinogen
Target organ effects

U.S. Federal Regulations

TSCA 8(a) IUR: Partial exemption
United States inventory (TSCA 8b): Gasoline is consider a mixture under TSCA. All components of this mixture are listed on the TSCA inventory.

SARA 302/304/311/312 extremely hazardous substances: To the best of our knowledge, there are no substances that would be at reportable levels for this regulation in this product.
SARA 302/304 emergency planning and notification: Gasoline
SARA 302/304/311/312 hazardous chemicals: Gasoline
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Gasoline: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

SARA 313 Supplier Notification

This product contains the following EPCRA section 313 chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40 CFR 372 -Table 372.65).

Product name	CAS number	Concentration (%)
toluene	108-88-3	<15
xylene isomers	1330-20-7	<15
ethylbenzene	100-41-4	<10
1,2,4-trimethylbenzene	95-63-6	<10
n-Hexane	110-54-3	<5
benzene	71-43-2	<2

Clean Water Act (CWA) 307: toluene; ethylbenzene

Clean Water Act (CWA) 311: toluene; ethylbenzene

Clean Air Act (CAA) 112 regulated flammable substances: n-Butane

International Regulations

WHMIS (Canada): Class B-2: Flammable liquid

CEPA Toxic substances: The following components are listed: Benzene
Canadian ARET: None of the components are listed.
Canadian NPRI: The following components are listed: Pentane; Toluene; Xylene; Butane; Ethylbenzene; Hexane; Hexane (2-methylpentane); 1,2,4-Trimethylbenzene; Pentane; n-Hexane; Heptane (2-methylhexane); Benzene; Hexane (2,3-dimethylbutane); Heptane
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

EINECS: 289-220-8

DSCL (EEC):
R12- Extremely flammable.
R38- Irritating to skin.
R45- May cause cancer.
R46- May cause heritable genetic damage.
R65- Also harmful: may cause lung damage if swallowed.
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R63- Possible risk of harm to the unborn child.
R67- Vapors may cause drowsiness and dizziness.

CEPA DSL/NDSL All components are listed or exempted.

International Lists **Australia inventory (AICS):** All components are listed or exempted.
China inventory (IECSC): Not determined.
Japan inventory (ENCS): Not determined.
Japan inventory (ISHL): Not determined.
Korea inventory (KECI): All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.

State Regulations **Massachusetts Substances**: The following components are listed: ISOPENTANE; TOLUENE; XYLENE; BUTANE; ETHYL BENZENE; ISOHEXANE; 3-METHYLPENTANE; PSEUDOCUMENE; PENTANE; HEXANE; ISOHEPTANE; BENZENE; 2,3-DIMETHYLBUTANE ; HEPTANE (N-HEPTANE); METHYLCYCLOPENTANE
New Jersey Hazardous Substances: The following components are listed: MOTOR FUEL, n. o.s.
New York Acutely Hazardous Substances: The following components are listed: Toluene; Xylene (mixed); Ethylbenzene; Hexane; Benzene
Pennsylvania RTK Hazardous Substances: The following components are listed: GASOLINE

WARNING: This product contains a chemical or chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Section 16. Other Information

Label requirements EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE.

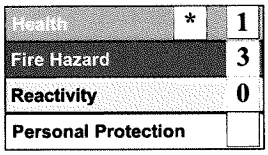
ASPIRATION HAZARD.
HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED.
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

CONTAINS MATERIAL WHICH MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: CENTRAL NERVOUS SYSTEM, SKIN, RESPIRATORY TRACT, EYES, BLOOD, KIDNEYS, LUNGS, LIVER, MUCOUS MEMBRANES, HEART, PERIPHERAL NERVOUS SYSTEM, GASTROINTESTINAL TRACT, BONE MARROW.

CONTAINS MATERIAL WHICH CAN CAUSE CANCER.
CONTAINS MATERIAL WHICH MAY CAUSE BIRTH DEFECTS.

TOXIC TO AQUATIC ORGANISMS.

Hazardous Material Information System (U.S.A.)



National Fire Protection Association (U.S.A.)

References Chemtox Database
Hazardous Substance Database

Validated on 1/1/2013. **Printed 1/1/2013.**

Chemtrec:
(800) 424-9300
Total Petrochemicals & Refining USA, Inc.:
(800) 322-3462

Notice to Reader

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To obtain an electronic copy of this MSDS, please email: product.stewardship@total.com.