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ARCHITECTURE

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RECEIVED
OCT 29 1987

HAZARDOUS WASTES/
WASTE PROGRAM

CLOSURE PLAN

Facility Information

Facility Name: Shell Oil Service Station
Facility Address: 230 MacArthur Blvd./Piedmont
Oakland, CA
Business Phone: (415) 655-5863
Owner: Shell Oil Co.
Address: P.O. Box 4023
Concord, CA 94524
Contact Person: Ray Newsome
Telephone: (415) 676-1414, ext. 128

Contractor Information

General Contractor: R.W. Johnston & Sons
801 53rd Avenue
Oakland, CA 94601
(415) 261-9424
Tank Removal Contractor: Crosby/Overton
8430 Amelia Street
Oakland, CA 94621
Tank Hauler/Cleaner: H & H Ship
220 China Basin
San Francisco, CA 94107
(415) 543-4835
Soil Testing Lab: Hazcat (Mobile Testing Lab)
733 Dartmouth Avenue
San Carlos, CA 94070
(415) 591-5820
Soil Hauler: Erickson, Inc.
255 Parr Blvd.
Richmond, CA 94801
(415) 235-1393
Soil Disposal Location: Inactive Shell
Service Station
1000 Cutting Blvd.
Richmond, CA

1) Sampling and Analysis Activities:

A) Samples are retrieved from either end of tank, placed in brass tubes and placed into ice. A chain-of-custody is made out and signed and delivered to the lab.

B) Samples are analyzed for:

1) Gasoline tanks:

In soil: T.H.C. (Total Hydrocarbon Count) low boiling fraction.

In water: T.H.C. low boiling fraction and B.T.X. (Benzene, Toluene, Xylene).

2) Decontamination of equipment:

A) Tanks are triple rinsed on site and inerted.

B) Tanks are placed on trucks and delivered to a tank facility for final cleaning and torch cutting.

3) Waste Materials to be disposed:

A) Rinse aid from tank cleaning is placed on Bill of Lading and disposed of at a refinery, if applicable. If no refinery is available material must be placed on a Hazardous Waste Manifest and disposed of at a Class I disposal site.

B) Contaminated soil must be placed on a Hazardous Waste Manifest and disposed of at a Class I disposal site.

**HAZARDOUS MATERIAL INVENTORY
STATEMENT**

Chemical Name	Trade Name	Quantity Stored	Major Constituents	DN/NA Number	Physical State Hazard Class	NFPA Hazard I.D. Numbers	MSDS Attached	Manifest Attached
GASOLINE	UNLEADED REGULAR	10,000 GAL.	HYDRO-CARBON BLEND	1203	LIQ.FL.	HEALTH 2 FLAM. 3 REACT. 0	YES	N.A.
GASOLINE	UNLEADED SUPER	8,000 GAL.	HYDRO-CARBON BLEND	1203	LIQ.FL.	HEALTH 2 FLAM. 3 REACT. 0	YES	N.A.
GASOLINE	REGULAR	8,000 GAL.	HYDRO-CARBON BLEND	1203	LIQ.FL.	HEALTH 1 FLAM. 3 REACT. 0	YES	N.A.



Shell

MATERIAL SAFETY DATA SHEET

17001 REV 1-89

MSDS NUMBER **51,161-2**

PAGE 1 OF 1



MATERIAL SAFETY DATA SHEET

MSDS NUMBER **51,161-2**
PAGE 2 OF 4

SECTION I	
NAME	
PRODUCT	Shell Super Unleaded Gasoline
CHEMICAL SYNONYMS	Petrol
CHEMICAL FAMILY	Hydrocarbon
SHELL CODE	04352
CAS NUMBER	Mixture

24 HOUR EMERGENCY ASSISTANCE	
SHELL	713-473-8481
CHEMTREC	800-424-9300
HAZARD RATING	
HEALTH	2
FIRE	4
REACTIVITY	0
HAZARD RATING	
LEAST	1
MODERATE	2
HIGH	3
EXTREME	4

SECTION II	
COMPOSITION	
Shell Super Unleaded Gasoline	100
INGREDIENTS	
Not Determined	
TOXICITY DATA	
A complex combination of hydrocarbons largely C-4 through C-12. Benzene content typically from 0.5% to 2.5%. May contain up to 10% of various oxygenated hydrocarbons, such as aliphatic alcohols and ethers. Also contains small amounts of other additives which are not considered to be hazardous at the concentrations used.	

SECTION III	
HEALTH INFORMATION	
Inhalation: WARNING. Minimize breathing vapors. Repeated or prolonged exposure to high concentration of vapor may cause pulmonary irritation, headache, dizziness, nausea, incoordination, loss of consciousness or even death.	
Ingestion: Harmful or fatal if swallowed resulting in nausea, vomiting, diarrhea and restlessness. Aspiration of vomitus and/or gasoline may lead to severe lung damage and even death.	
Skin Contact: Prolonged and repeated liquid contact can cause defatting and drying of the skin resulting in skin irritation and dermatitis. Some components of gasoline may be absorbed through the skin.	
NOTE: (1) It has been reported that chronic inhalation exposure to an unleaded motor gasoline, which was fully vaporized, has produced kidney and liver cancers in some laboratory rodents. The studies were sponsored by the American Petroleum Institute. The API test material used was blended to represent a typical unleaded motor gasoline. Shell unleaded gasoline has not been evaluated in this type of animal test. (2) Repeated high level benzene exposure may produce injury of the blood-forming tissues causing blood abnormalities and possibly leukemia; however, exposures to such high levels are not likely to be encountered in gasoline vapor due to the low benzene content.	

SECTION IV	
OCCUPATIONAL EXPOSURE LIMITS	
No OSHA limits have been established.	
ACGIH/TLV = 300 ppa (8-hour TWA); TLV-STEL = 500 ppa	
NOTE: THE ACGIH/TLV limit of 300 ppa is under review. In the interim, minimize exposure to a level which is practical and attainable.	

SECTION V	
EMERGENCY AND FIRST AID PROCEDURES	
INHALATION:	Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.
SKIN CONTACT:	Flush with water while removing contaminated clothing and shoes. Follow by washing with soap and water. Do not reuse clothing or shoes until cleaned. If irritation persists, get medical attention.
EYE CONTACT:	Flush with water for 15 minutes while holding eyelids open. Get medical attention.
INGESTION:	Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Get medical attention.
NOTE TO THE PHYSICIAN: If more than 2.0 ml per kg has been ingested and vomiting has not occurred, emesis should be induced with medical supervision. Keep victim's head below hips to prevent aspiration. If symptoms such as loss of gag reflex, convulsions or unconsciousness occur before emesis, gastric lavage using a cuffed endotracheal tube should be considered.	

SECTION VI	
PHYSICAL DATA	
BOILING POINT (°F)	100-425
MELTING POINT (°F)	N.A.
SPECIFIC GRAVITY (60/60)	0.72-0.76
% VOLATILE BY VOLUME	100 (at 113°F)
SOLUBILITY IN WATER	Negligible
EVAPORATION RATE (BUTYL ACETATE=1)	N.A.
VAPOR PRESSURE (mmHg) (60°F)	7-14.5
VAPOR DENSITY (AIR=1)	3.5
E.N.A. Not Available	
Red color: clear and bright liquid. Characteristic petroleum-hydrocarbon odor.	

SECTION VII	
FIRE AND EXPLOSION HAZARDS	
-40°F Tag Closed Tester	
Use water fog, foam, dry chemical or CO ₂ . Do not use a direct stream of water. Product will float and can be ignited on surface of water.	
Danger. Extremely flammable. Clear fire area of unprotected personnel and isolate. Do not enter confined fire space without full bunker gear including a positive pressure SCBA approved self-contained breathing apparatus. Cool fire exposed containers with water.	
Vapors are heavier than air accumulating in low areas and traveling along the ground away from the handling site.	
Do NOT weld, heat or drill on or near container. However, if emergency situations require drilling, only trained emergency personnel should drill.	

MATERIAL SAFETY DATA SHEET

MSDS NUMBER ▶ 51,161-3
PAGE 3 OF 4

SECTION VIII REACTIVITY

STABILITY ▶ UNSTABLE STABLE

HAZARDOUS POLYMERIZATION ▶ MAY OCCUR WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID

Avoid heat, sparks, open flames and strong oxidizing agents. Prevent vapor accumulation.

HAZARDOUS DECOMPOSITION PRODUCTS

Carbon monoxide and other unidentified organic compounds can be formed upon combustion.

SECTION IX EMPLOYEE PROTECTION

Under conditions of potential high exposure, the use of a NIOSH-approved respirator is recommended (see Section XI). Per 29 CFR 1910.134 use either an atmosphere-supplying respirator or an air-purifying respirator for organic vapors. For advice on proper respirator protection, see Section XI.

As required to minimize skin and eye contact, wear impervious gloves, eye protection, and other protective clothing.

See explosion-proof ventilation as required to control vapor concentrations.

SECTION X ENVIRONMENTAL PROTECTION

DANGER! EXTREMELY FLAMMABLE. Eliminate all ignition sources. Handling equipment must be grounded to prevent sparking.

Large spills: Isolate hazard area; deny entry to unnecessary personnel. Wear appropriate respirator and protective clothing. Shut off source of leak if safe to do so; dike and contain. Water fog may be useful in suppressing vapor cloud; contain run-off. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material; place in D.O.T. authorized non-leaking containers for proper disposal. Flush area with water only if flush solutions can be contained and gasoline is recoverable.

Small spills: Take up with an absorbent material such as sand or clay and dispose as above.

Recovered product should be recycled. Waste generated during cleanup which is discarded as a solid waste should be disposed of at a facility approved under RCRA regulations for hazardous waste (see Sec. XIII).

This product is an "oil" under the Clean Water Act. **KEEP OUT OF SURFACE WATERS AND ANY WATER COURSES OR SEWERS ENTERING OR LEADING TO SURFACE WATERS.** See Section XIII.

MATERIAL SAFETY DATA SHEET

MSDS NUMBER ▶ 51,161-3
PAGE 4 OF 4

SECTION XI SPECIAL PRECAUTIONS

DANGER! EXTREMELY FLAMMABLE. Avoid heat, sparks, open flames, including pilot lights, and strong oxidizing agents. Use explosion-proof ventilation to prevent vapor accumulation. All handling equipment must be grounded to prevent sparking. Harmful or fatal if swallowed. Do not siphon gasoline by mouth.

FOR USE AS A MOTOR FUEL ONLY. Do not use as a cleaning solvent or for other non-motor fuel uses.

Wash with soap and water before eating, drinking, smoking or using toilet facilities. Launder contaminated clothing before reuse. Under normal working conditions at service stations, a respirator is not warranted. If a major spill occurs, get upwind and notify local emergency personnel. **Remember explosion and fire is the most immediate danger.**

SECTION XII TRANSPORTATION REQUIREMENTS

DEPARTMENT OF TRANSPORTATION CLASSIFICATION

FLAMMABLE LIQUID COMBUSTIBLE LIQUID OXIDIZING MATERIAL NON-FLAMMABLE GAS

FLAMMABLE SOLID POISON, CLASS A CORROSIVE MATERIAL NOT HAZARDOUS BY DOT REGULATIONS

FLAMMABLE GAS POISON, CLASS B IRRITATING MATERIAL OTHER

DOT Proper Shipping Name: Gasoline

D.O.T. I.D. # UN1203, Guide No. 27

SECTION XIII OTHER REGULATORY CONTROLS

EPA - Resource Conservation and Recovery Act (RCRA) Regulations

As produced, this material is a product and not a waste. If discarded or intended to be discarded as is, it is a liquid ignitable hazardous waste as defined in RCRA (40 CFR 261.21). The EPA hazardous waste number is D001. Free liquid ignitable wastes are banned from disposal by landfilling built up in containers. Product recovery and recycling are recommended where possible.

EPA - Clean Water Act (CWA)

This product is classified as an oil under Section 311 of the Clean Water Act. Spills entering (a) surface waters or (b) any watercourses or sewers entering/leading to surface waters that cause a sheen **MUST** be reported to the National Response Center, 800-424-8802.

The information contained herein is based on data generated through non-routine analysis as expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Trade secrets are respectfully for supply to vendor or their agents and are not intended to be published in the data sheet. Additionally, neither assumes no responsibility for injury to vendors or third parties, previously caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, neither assumes the risk in the use of the material.



John P. Lepus

SHELL OIL COMPANY
PRODUCT SAFETY AND COMPLIANCE
OIL AND CHEMICAL PRODUCTS
P.O. BOX 4329
HOUSTON, TEXAS 77210

DATE PREPARED
May 05, 1983



MATERIAL SAFETY DATA SHEET

Shell

MSDS NUMBER ▶ 51,270-2

PAGE 1 OF 4

SECTION I		24 HOUR EMERGENCY ASSISTANCE	
PRODUCT	Shell Unleaded Gasoline	PHONE	718-472-8467
CHEMICAL SYNONYMS	Petrol	CHEMTRAC	800-424-9300
CHEMICAL FAMILY	Hydrocarbons	HAZARD RATING	HEALTH 2
SHELL CODE	02160	LEAST	FLAM 4
CAL NUMBER	KL6000	MODERATE	REACTIVITY 0
		EXTREME	

SECTION II	EXPOSURE	HAZARD	TOXICITY DATA
Shell Unleaded Gasoline	100	Not Rebreathed	
<p>A complex combination of hydrocarbons largely C-4 through C-12. Benzene content typically from 0.8% to 2.5%. May contain up to 10% of various oxygenated hydrocarbons, such as aliphatic alcohols and ethers. Also contains small amounts of other additives which are not considered to be hazardous at the concentrations used.</p>			

SECTION III HEALTH INFORMATION

Inhalation: WARNING. Irritate breathing vapors. Repeated or prolonged exposure to high concentrations of vapor may cause pulmonary irritation, headache, dizziness, nausea, intoxication, loss of consciousness or even death.

Ingestion: Harmful or fatal if swallowed resulting in nausea, vomiting, diarrhea and restlessness. Regurgitation of vomitus and/or gasoline may lead to severe lung damage and even death.

Skin Contact: Prolonged and repeated liquid contact can cause defatting and drying of the skin resulting in skin irritation and dermatitis. Some components of gasoline may be absorbed through the skin.

NOTE: (1) It has been reported that chronic inhalation exposure to an unleaded motor gasoline, which was fully vaporized, has produced kidney and liver cancers in some laboratory rodents. The studies were sponsored by the American Petroleum Institute. The API test material used was blended to represent a typical unleaded motor gasoline. Shell unleaded gasoline has not been evaluated in this type of animal test. (2) Repeated high level benzene exposure may produce injury of the blood-forming tissues causing blood abnormalities and possibly leukemia; however, exposures to such high levels are not likely to be encountered in gasoline vapor due to the low benzene content.

SECTION IV OCCUPATIONAL EXPOSURE LIMITS

No OSHA limits have been established.

ACGIH/TLV = 300 pps (8-hour TWA); TLV-STEL = 500 pps

NOTE: THE ACGIH/TLV limit of 300 pps is under review. In the interim, minimize exposure to a level which is practical and attainable.



MATERIAL SAFETY DATA SHEET

MSDS NUMBER ▶ 51,270-2
PAGE 2 OF 4

SECTION V EMERGENCY AND FIRST AID PROCEDURES	
INHALATION:	Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.
SKIN CONTACT:	Flush with water while removing contaminated clothing and shoes. Follow by washing with soap and water. Do not reuse clothing or shoes until cleaned. If irritation persists, get medical attention.
EYE CONTACT:	Flush with water for 15 minutes while holding eyelids open. Get medical attention.
INGESTION:	Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Get medical attention.
<p>*NOTE TO THE PHYSICIAN: If more than 2.0 ml per kg has been ingested and vomiting has not occurred, emesis should be induced with medical supervision. Keep victim's head below hips to prevent aspiration. If symptoms such as loss of gag reflex, convulsions or unconsciousness occur before emesis, gastric lavage using a cuffed endotracheal tube should be considered.</p>	

SECTION VI PHYSICAL DATA			
BOILING POINT (°F)	▶ 100-425 APPROX.	MELTING POINT (°F)	▶ N.A.
SPECIFIC GRAVITY (H₂O=1)	▶ 0.72-0.76	% VOLATILE BY VOLUME	▶ 100 (at 21°C)
SOLUBILITY IN WATER	▶ Negligible	EVAPORATION RATE (BUTYL ACETATE=1)	▶ N.A.
APPEARANCE AND ODOR	Colorless to bronze color; clear and bright liquid. Characteristic petroleum-hydrocarbon odor.		
VAPOR PRESSURE (mmHg) (Reid)	▶ 7-14.5		
VAPOR DENSITY (AIR=1)	▶ 3.9		
N.A. = Not Available			

SECTION VII FIRE AND EXPLOSION HAZARDS			
FLASH POINT AND METHOD USED	FLAMMABLE LIMITS (VOL% IN AIR)	LOWER	UPPER
-10°F Tag Closed Tester		1.1	7.6
EXTINGUISHING MEDIA			

Use water fog, foam, dry chemical or CO₂. Do not use a direct stream of water. Product will float and can be reignited on surface of water.

DANGER: Extremely Flammable. Clear fire area of unprotected personnel and isolate. Do not enter confined fire space without full bunker gear including a positive pressure NIOSH approved self-contained breathing apparatus. Cool fire exposed containers with water.

ADDITIONAL FIRE AND EXPLOSION HAZARDS

Vapors are heavier than air accumulating in low areas and traveling along the ground away from the handling site.

Do NOT weld, heat or drill on or near container. However, if emergency situations require drilling, only trained emergency personnel should drill.

 MATERIAL SAFETY DATA SHEET

MSDS NUMBER 51,270-2
PAGE 3 OF 4

SECTION VIII REACTIVITY

STABILITY UNSTABLE STABLE

HAZARDOUS POLYMERIZATION MAY OCCUR WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID

Avoid heat, sparks, open flames and strong oxidizing agents. Prevent vapor accumulation.

HAZARDOUS DECOMPOSITION PRODUCTS

Carbon monoxide and other unidentified organic compounds can be formed upon combustion.

SECTION IX EMPLOYEE PROTECTION

RESPIRATORY PROTECTION

Under conditions of potential high exposure, the use of a NIOSH-approved respirator is recommended (see Section X). Per 29 CFR 1910.134 use either an atmosphere-supplying respirator or an air-purifying respirator for organic vapors. For service station personnel protection, see Section XI.

PROTECTIVE CLOTHING

As required to minimize skin and eye contact, wear impervious gloves, eye protection, and other protective clothing.

ADDITIONAL PROTECTIVE MEASURES

Use explosion-proof ventilation as required to control vapor concentrations.

SECTION X ENVIRONMENTAL PROTECTION

HAZARDOUS MATERIAL

DANGER! EXTREMELY FLAMMABLE. Eliminate all ignition sources. Handling equipment must be grounded to prevent sparking.

Large spills: Isolate hazard area; deny entry to unnecessary personnel. Wear appropriate respirator and protective clothing. Shut off source of leak if safe to do so; dike and contain. Water fog may be useful in suppressing vapor cloud; contain run-off. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material; place in D.O.T. authorized non-leaking containers for proper disposal. Flush area with water only if flush solutions can be contained and gasoline is recoverable.

Small spills: Take up with an absorbent material such as sand or clay and dispose as above.

Recovered product should be recycled. Waste generated during cleanup which is discarded as a solid waste should be disposed of at a facility approved under RCRA regulations for hazardous waste (see Sec. XIII).

ENVIRONMENTAL PRECAUTIONS

This product is an "oil" under the Clean Water Act. KEEP OUT OF SURFACE WATERS AND ANY WATER COURSES OR SEWERS ENTERING OR LEADING TO SURFACE WATERS. See Section XIII.

 MATERIAL SAFETY DATA SHEET

MSDS NUMBER 51,270-2
PAGE 4 OF 4

SECTION XI SPECIAL PRECAUTIONS

DANGER! EXTREMELY FLAMMABLE. Avoid heat, sparks, open flames, including pilot lights, and strong oxidizing agents. Use explosion-proof ventilation to prevent vapor accumulation. All handling equipment must be grounded to prevent sparking. Careful or fatal if swallowed. Do not siphon gasoline by mouth.

FOR USE AS A MOTOR FUEL ONLY. Do not use as a cleaning solvent or for other non-motor fuel uses.

Wash with soap and water before eating, drinking, smoking or using toilet facilities. Launder contaminated clothing before reuse. Under normal working conditions at service stations, a respirator is not warranted. If a major spill occurs, get upwind and notify local emergency personnel. **Respirator explosion and fire is the most immediate danger.**

SECTION XII TRANSPORTATION REQUIREMENTS

DEPARTMENT OF TRANSPORTATION CLASSIFICATION

FLAMMABLE LIQUID COMBUSTIBLE LIQUID OXIDIZING MATERIAL NON-FLAMMABLE GAS

FLAMMABLE SOLID POISON CLASS A CORROSIVE MATERIAL NOT HAZARDOUS BY D.O.T. REGULATIONS

FLAMMABLE GAS POISON CLASS B IRRITATING MATERIAL OTHER - Specify below

D.O.T. PROPER SHIPPING NAME

Gasoline

OTHER REQUIREMENTS

D.O.T. I.D. # UN1203, Guide No. 27

SECTION XIII OTHER REGULATORY CONTROLS

EPA - Resource Conservation and Recovery Act (RCRA) Regulations

As produced, this material is a product and not a waste. If discarded or intended to be discarded as is, it is a liquid ignitable hazardous waste as defined in RCRA (40 CFR 261.21). The EPA hazardous waste number is D001. Free liquid ignitable wastes are banned from disposal by landfilling bulk or in containers. Product recovery and recycling are recommended where possible.

EPA - Clean Water Act (CWA)

This product is classified as an oil under Section 311 of the Clean Water Act. Spills entering (a) surface waters or (b) any watercourses or sewers entering/leading to surface waters that cause a sheen **MUST** be reported to the National Response Center, 800-424-8802.

The information contained herein is based on data considered correct. However, the accuracy of the information is not guaranteed. The accuracy of these data is the responsibility of the user. Shell Oil Company does not assume any responsibility for injury to persons or third parties, or damage to property, caused by the use of this product. The user should be advised that the information contained herein is not intended to be used as a substitute for the user's own safety procedures. Shell Oil Company does not assume any responsibility for injury to persons or third parties, or damage to property, caused by the use of this product. The user should be advised that the information contained herein is not intended to be used as a substitute for the user's own safety procedures. Shell Oil Company does not assume any responsibility for injury to persons or third parties, or damage to property, caused by the use of this product.



John P. Phipps

SHELL OIL COMPANY
PRODUCT SAFETY AND COMPLIANCE
OIL AND CHEMICAL PRODUCTS
P.O. BOX 4328
HOUSTON, TEXAS 77261-0428

DATE PREPARED
May 05, 1987



MATERIAL SAFETY DATA SHEET

Shell

17002 REV 1-82

MSDS NUMBER ▶ 51,180-2

PAGE 1 OF 4

SECTION I		24 HOUR EMERGENCY ASSISTANCE																	
NAME Shell Regular Gasoline		SHELL 713-473-9481 CHEMTREC 800-424-9300																	
CHEMICAL SYNONYMS Petrol		HEALTH 2																	
CHEMICAL FAMILY Hydrocarbon		FLAM 4																	
SHELL CODE ▶ 82280		REACTIVITY 0																	
CAS NUMBER ▶ Mixture		HAZARD RATING																	
		<table border="0"> <tr> <td>LEAST</td> <td>SLIGHT</td> <td></td> <td></td> </tr> <tr> <td>0</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>MODERATE</td> <td>SEVERE</td> <td>EXTREME</td> <td></td> </tr> <tr> <td>2</td> <td>3</td> <td>4</td> <td></td> </tr> </table>		LEAST	SLIGHT			0	1	2	3	MODERATE	SEVERE	EXTREME		2	3	4	
LEAST	SLIGHT																		
0	1	2	3																
MODERATE	SEVERE	EXTREME																	
2	3	4																	

SECTION II		INGREDIENTS	
COMPOSITION		TOXICITY DATA	
Shell Regular Gasoline	100	Not Determined	
A complex combination of hydrocarbons largely C-4 through C-12. Contains tetraethyl lead and tetramethyl lead. Benzene content typically from 0.5% to 2.5%. May contain up to 10% of various oxygenated hydrocarbons, such as aliphatic alcohols and ethers. Also contains small amounts of other additives which are not considered to be hazardous at the concentrations used.			

SECTION III		HEALTH INFORMATION	
<p>IRRITATION: IRRITATING. Irritant breathing vapors. Reported or presumed exposures to high concentration of vapor may cause pulmonary irritation, headache, dizziness, nausea, incoordination, loss of consciousness or even death.</p> <p>INGESTION: Harmful if swallowed resulting in nausea, vomiting, diarrhea and restlessness. Aspiration of vomitus and/or gasoline may lead to severe lung damage and even death.</p> <p>SKIN CONTACT: Prolonged and repeated liquid contact can cause softening and drying of the skin resulting in skin irritation and dermatitis. Some components of gasoline may be absorbed through the skin.</p>			

NOTES: (1) It has been reported that chronic inhalation exposure to an unleaded motor gasoline, which was fully vaporized, has produced kidney and liver cancers in some laboratory rodents. The studies were sponsored by the American Petroleum Institute. The API test material used was designed to represent a typical unleaded motor gasoline. Shell unleaded gasoline has not been evaluated in this type of animal test. (2) Repeated high level benzene exposure may produce injury of the blood-forming tissues causing blood abnormalities and possibly leukemia; however, exposures to such high levels are not likely to be encountered in gasoline vapor due to the low benzene content.

SECTION IV		OCCUPATIONAL EXPOSURE LIMITS	
<p>To OSHA limits have been established.</p> <p>ACGIH/TLV = 300 ppm (9-hour TWA); TLV-STEL = 500 ppm</p> <p>NOTE: THE ACGIH/TLV limit of 300 ppm is under review. In the interim, minimize exposure to a level which is practical and attainable.</p>			



MATERIAL SAFETY DATA SHEET

MSDS NUMBER ▶ 51,180-2
PAGE 2 OF 4

SECTION V		EMERGENCY AND FIRST AID PROCEDURES	
INHALATION:		Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.	
SKIN CONTACT:		Flush with water while removing contaminated clothing and shoes. Follow by washing with soap and water. Do not reuse clothing or shoes until cleaned. If irritation persists, get medical attention.	
EYE CONTACT:		Flush with water for 15 minutes while holding eyelids open. Get medical attention.	
INGESTION:		Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Get medical attention.	
<p>NOTE TO THE PHYSICIAN: If more than 2.0 ml per kg has been ingested and vomiting has not occurred, emesis should be induced with medical supervision. Keep victim's head below hips to prevent aspiration. If symptoms such as loss of gag reflex, convulsions or unconsciousness occur before emesis, gastric lavage using a cuffed endotracheal tube should be considered.</p>			

SECTION VI				PHYSICAL DATA	
BOILING POINT (°F)		MELTING POINT (°F)		VAPOR PRESSURE (mmHg)	
100-425 APPROX.		N.A.		7-28.5 PSI (100K)	
SPECIFIC GRAVITY (60/60)		% VOLATILE BY VOLUME		VAPOR DENSITY (AIR = 1)	
0.72-0.76		100 (ALL A137Z)		3.5	
SOLUBILITY IN WATER		EVAPORATION RATE (BUTYL ACETATE = 1)		N.A. = Not Available	
Negligible		N.A.		N.A.	
<p>APPEARANCE AND ODOR</p> <p>Colorless to bronze color; clear and bright liquid. Characteristic petroleum-hydrocarbon odor.</p>					

SECTION VII				FIRE AND EXPLOSION HAZARDS	
FLASH POINT - METHOD USED		FLAMMABLE LIMITS - VOLUME IN AIR		LOWER	
-40°F Tag Closed Tester		1.3		7.6	
<p>Use water fog, foam, dry chemical or CO₂. Do not use a direct stream of water. Product will float and can be reignited on surface of water.</p>					

Danger. Extremely Flammable. Clear fire area of unprotected personnel and isolate. Do not enter confined fire space without full bunker gear including a positive pressure RIOSM approved self-contained breathing apparatus. Cool fire exposed containers with water.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Vapors are heavier than air accumulating in low areas and traveling along the ground away from the handling site.

Do NOT weld, heat or drill on or near container. However, if emergency situations require drilling, only trained emergency personnel should drill.

MATERIAL SAFETY DATA SHEET

MSDS NUMBER 51,180-2
PAGE 3 OF 4

SECTION VIII REACTIVITY	
STABILITY <input type="checkbox"/> UNSTABLE <input checked="" type="checkbox"/> STABLE	HAZARDOUS POLYMERIZATION <input type="checkbox"/> MAY OCCUR <input checked="" type="checkbox"/> WILL NOT OCCUR
Avoid heat, sparks, open flames and strong oxidizing agents. Prevent vapor accumulation.	
Carbon monoxide and other unidentified organic compounds can be formed upon combustion.	

SECTION IX EMPLOYEE PROTECTION	
Under conditions of potential high exposure, the use of a NIOSH-approved respirator is recommended (see Section X). For 29 CFR 1910.134 use either an atmosphere-supplying respirator or an air-purifying respirator for organic vapors. For service station personnel protection, see Section XI.	
As required to minimize skin and eye contact, wear impervious gloves, eye protection, and other protective clothing.	
Use explosion-proof ventilation as required to control vapor concentrations.	

SECTION X ENVIRONMENTAL PROTECTION	
<p>HAZARD: EXTREMELY FLAMMABLE. Eliminate all ignition sources. Handling equipment must be grounded to prevent sparking.</p> <p>Large Spills: Isolate hazard area; deny entry to unnecessary personnel. Wear appropriate respirator and protective clothing. Shut off source of leak if safe to do so; dike and contain. Water fog may be useful in suppressing vapor cloud; contain run-off. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material. Ppact. & M.D.C.T. authorized non-leaking containers for proper disposal. Flush area with water only if such actions can be contained and gasoline is recoverable.</p> <p>Small Spills: Take up with an absorbent material such as sand or clay and dispose as above.</p> <p>Recovered product should be recycled. Waste generated during cleanup which is discarded as a solid waste should be disposed of at a facility approved under RCRA regulations for hazardous waste. (See Sec. XIII).</p> <p>This product is an "oil" under the Clean Water Act. KEEP OUT OF SURFACE WATERS AND ANY WATER COURSES OR SEWERS ENTERING OR LEADING TO SURFACE WATERS. See Section XIII.</p>	

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SECTION XI SPECIAL PRECAUTIONS	
<p>HAZARD: EXTREMELY FLAMMABLE. Avoid heat, sparks, open flames, including pilot lights, and strong oxidizing agents. Use explosion-proof ventilation to prevent vapor accumulation. All handling equipment must be grounded to prevent sparking. Harmful or fatal if swallowed. Do not siphon gasoline by mouth.</p> <p>FOR USE AS A MOTOR FUEL ONLY. Do not use as a cleaning solvent or for other non-motor fuel uses.</p> <p>Wash with soap and water before eating, drinking, smoking or using toilet facilities. Launder contaminated clothing before reuse. Under normal working conditions at service stations, a respirator is not warranted. If a major spill occurs, get upwind and notify local emergency personnel. Preventer explosion and fire is the most immediate danger.</p>	

SECTION XII TRANSPORTATION REQUIREMENTS	
DEPARTMENT OF TRANSPORTATION CLASSIFICATION	<input checked="" type="checkbox"/> FLAMMABLE LIQUID <input type="checkbox"/> FLAMMABLE SOLID <input type="checkbox"/> FLAMMABLE GAS <input type="checkbox"/> COMBUSTIBLE LIQUID <input type="checkbox"/> POISON CLASS A <input type="checkbox"/> POISON CLASS B <input type="checkbox"/> OXIDIZING MATERIAL <input type="checkbox"/> CORROSIVE MATERIAL <input type="checkbox"/> IRRITATING MATERIAL <input type="checkbox"/> NON-FLAMMABLE GAS <input type="checkbox"/> NOT HAZARDOUS BY DOT REGULATIONS <input type="checkbox"/> OTHER (Specify)
DOT PROPER SHIPPING NAME: Gasoline	
DOT ID: 1.0. & UN1203, Guide No. 21	

SECTION XIII OTHER REGULATORY CONTROLS	
<p>F22 - Resource Conservation and Recovery Act (RCRA) Regulations As produced, this material is a product and not a waste. If discarded or intended to be discarded as is, it is a liquid ignitable hazardous waste as defined in RCRA (40 CFR 261.21). The EPA hazardous waste number is H302. The liquid ignitable wastes are banned from disposal by landfilling 60% of its contents. Product recovery and recycling are recommended where possible.</p> <p>CWA - Clean Water Act (CWA) This product is classified as an oil under Section 311 of the Clean Water Act. Spills entering (a) surface waters or (b) any watercourses or leach, entering/leading to surface waters that cause a sheen MUST be reported to the National Response Center, 800-424-8802.</p>	

The information contained herein is based on data considered accurate however no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof.

The user assumes no responsibility for injury to persons or their property or other damage caused by the material if reasonable safety precautions are not observed as stipulated in the data sheet and the user assumes no responsibility for injury to persons or their property or other damage caused by the material if the user does not follow the instructions and procedures as stipulated in the data sheet.



John P. Peters

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OIL AND CHEMICAL PRODUCTS
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DATE PREPARED
MAY 05, 1983