

ATTACHMENT 2

Supporting documents

Material Safety Data Sheets pour the following products:

- Diesel fuel
- Gasoline
- Hydraulic fluid
- Motor Oil
- 20:20:20 water-soluble fertilizer
- Hydrophobic sorbent

AMOCO INTERNATIONAL OILCO -- AMOFUEL NO. 2 DIESEL - DIESEL FUEL

MATERIAL SAFETY DATA SHEET

NSN: 9140002865294

Manufacturer's CAGE: 6G027

Part No. Indicator: A

Part Number/Trade Name: AMOFUEL NO. 2 DIESEL

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General Information

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Item Name: DIESEL FUEL

Company's Name: AMOCO INTERNATIONAL OILCO

Company's Street: 200 E RANDOLPH DR

Company's P. O. Box: 5910-A

Company's City: CHICAGO

Company's State: IL

Company's Country: US

Company's Zip Code: 60680

Company's Emerg Ph #: 800-447-8735

Company's Info Ph #: 312-856-3907

Distributor/Vendor # 1: AMOCO INTERNATIONAL OILCO

Distributor/Vendor # 1 Cage: 6G027

Record No. For Safety Entry: 082

Tot Safety Entries This Stk#: 112

Status: SE

Date MSDS Prepared: 25JUL89

Safety Data Review Date: 07MAR91

Supply Item Manager: KY

MSDS Preparer's Name: R. G. FARMER

MSDS Serial Number: BGWFD

Specification Number: VV-F-800

Spec Type, Grade, Class: DF-2

Hazard Characteristic Code: F4

Unit Of Issue: GL

Unit Of Issue Container Qty: BULK

Type Of Container: BULK

Ingredients/Identity Information

Proprietary: NO

Ingredient: ALIPHATIC PETROLEUM DISTILLATES

Ingredient Sequence Number: 01

NIOSH (RTECS) Number: 1003049AP

CAS Number: 68476-30-2

OSHA PEL: NOT ESTABLISHED

ACGIH TLV: NOT ESTABLISHED

Other Recommended Limit: NONE SPECIFIED

Physical/Chemical Characteristics

Appearance And Odor: CLEAR, BRIGHT LIQUID

Boiling Point: 340F, 171C

Specific Gravity: 0.88

Decomposition Temperature: UNKNOWN

Solubility In Water: NEGLIGIBLE

Viscosity: 1.8 CS @100F

Corrosion Rate (IPY): UNKNOWN

Fire and Explosion Hazard Data

Flash Point: 120F,49C

Flash Point Method: TCC

Lower Explosive Limit: 0.6

Upper Explosive Limit: 7.5

Extinguishing Media: USE WATER FOG, CARBON DIOXIDE, FOAM, OR DRY CHEMICAL.

(EXTINGUISHING AGENTS APPROVED FOR CLASS B HAZARDS)

Special Fire Fighting Proc: FIRE FIGHTERS SHOULD USE NIOSH APPROVED SCBA & FULL PROTECTIVE EQUIPMENT WHEN FIGHTING CHEMICAL FIRE. USE WATER SPRAY TO COOL NEARBY CONTAINERS EXPOSED TO FIRE.

Unusual Fire And Expl Hazrds: FIRE OR EXCESSIVE HEAT MAY CAUSE PRODUCTION OF HAZARDOUS DECOMPOSITION PRODUCTS.

Reactivity Data

Stability: YES

Cond To Avoid (Stability): HIGH TEMPERATURES, SPARKS, AND OPEN FLAMES

Materials To Avoid: STRONG OXIDIZING AGENTS

Hazardous Decomp Products: BY FIRE: CARBON MONOXIDE, CARBON DIOXIDE

Hazardous Poly Occur: NO

Conditions To Avoid (Poly): NOT APPLICABLE

Health Hazard Data

LD50-LC50 Mixture: LD50 (ORAL RAT) IS EXPECTED > 5G/KG

Route Of Entry - Inhalation: YES

Route Of Entry - Skin: YES

Route Of Entry - Ingestion: YES

Health Haz Acute And Chronic: EYE:IRRITATION. SKIN:MILDLY IRRITATING.

RESPIRATORY SYSTEM IRRITATION AND LIGHT HEADEDNESS. MAY CAUSE NAUSEA, HEADACHE, DROWSINESS, VOMITING. INGESTION:SOLVENT ASPIRATION INTO LUNGS AS A RESULT OF VOMITING MAY CAUSE LUNG AND DIGESTIVE SYSTEM DAMAGE

Carcinogenicity - NTP: NO

Carcinogenicity - IARC: NO

Carcinogenicity - OSHA: NO

Explanation Carcinogenicity: NONE OF THE COMPOUNDS IN THIS PRODUCT IS

LISTED BY IARC, NTP, OR OSHA AS A CARCINOGEN. (DIESEL EXHAUST IS POTENTIAL)

Signs/Symptoms Of Overexp: VAPORS IN HIGH CONCENTRATION ARE ANESTHETIC.

OVEREXPOSURE MAY RESULT IN FATIGUE, WEAKNESS, CONFUSION EUPHORIA,

DIZZINESS, HEADACHE, DILATED PUPILS, LACRIMATION, NERVOUSNESS, MUSCLE FATIGUE, INSOMNIA, PARESTHESIA, DERMATITIS, AND PHOTOPHOBIA. CAN CAUSE TEARING, REDNESS OF EYES AND BLURRED VISION. IRRITATION OF SKIN.

Med Cond Aggravated By Exp: PERSONS WITH A HISTORY OF AILMENTS OR WITH A

PRE-EXISTING DISEASE INVOLVING THE EYES, SKIN, RESPIRATORY TRACT OR NERVOUS SYSTEM MAY BE AT INCREASED RISK FROM EXPOSURE. DRYING/CRACKING OF SKIN.

Emergency/First Aid Proc: EYES: FLUSH WITH RUNNING WATER FOR 15 MINUTES

WHILE HOLDING EYELID. GET MEDICAL ATTENTION IMMEDIATELY. SKIN: WASH WITH REMOVE TO FRESH AIR. GIVE MOUTH-TO-MOUTH RESUSCITATION IF NOT BREATHING. GET MEDICAL ATTENTION. INGESTION: DO NOT INDUCE VOMITING. GIVE NOTHING BY MOUTH IF UNCONSCIOUS. GET MEDICAL ATTENTION IMMEDIATELY.

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: REMOVE ALL SOURCES OF IGNITION. VENTILATE

AND REMOVE WITH INERT ABSORBENT. USE NON-SPARKING TOOLS.

Neutralizing Agent: NOT APPLICABLE

Waste Disposal Method: WASTE MATERIAL MAY BE A HAZARDOUS WASTE (CODE D001)

WHICH MUST BE DISPOSED OF ACCORDINGLY. DO NOT INCINERATE CLOSED CONTAINER.

DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

Precautions-Handling/Storing: CONTENTS ARE FLAMMABLE. KEEP AWAY FROM HEAT,

SPARKS, AND OPEN FLAME. DURING USE AND UNTIL ALL VAPORS ARE GONE: KEEP AREA

VENTILATED-DO NOT SMOKE.

Other Precautions: AVOID BREATHING OF VAPORS. LABORATORY TESTS ON ANIMALS

HAVE SHOWN THAT EXPOSURE CAN CAUSE SKIN TUMORS. ALWAYS PROMPTLY WASH OFF

ANY EXPOSED SKIN.

Control Measures

Respiratory Protection: WEAR A NIOSH/MSHA APPROVED RESPIRATOR IF

VENTILATION DOES NOT MAINTAIN INHALATION EXPOSURES BELOW PEL/TLV. WEAR SELF-CONTAINED BREATHING APPARATUS IF REQUIRED FOR HIGH LEVELS OF CONTAMINATES.

Ventilation: LOCAL EXHAUST PREFERABLE. GENERAL EXHAUST ACCEPTABLE IF THE EXPOSURE IS MAINTAINED BELOW APPLICABLE EXPOSURE LIMITS.

Protective Gloves: NEOPRENE OR NATURAL RUBBER GLOVES

Eye Protection: PAINT GOGGLES/SAFETY GLASSES AS REQUIRED

Other Protective Equipment: INDUSTRIAL-TYPE WORK CLOTHING, HAT AND APRON

AS REQUIRED. AN EYE WASH AND DRENCH SHOWER FACILITY SHOULD BE AVAILABLE.

Work Hygienic Practices: USE WITH ADEQUATE VENTILATION. AVOID BREATHING

VAPOR/SPRAY MIST. AVOID CONTACT WITH SKIN/EYES. WASH HANDS/SKIN AFTER USE

Suppl. Safety & Health Data: KEEP CONTAINER CLOSED WHEN NOT IN USE.

TRANSFER ONLY TO APPROVED CONTAINERS WITH COMPLETE AND APPROPRIATE LABELING. DO NOT TAKE INTERNALLY.

Transportation Data

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Trans Data Review Date: 91066

DOT PSN Code: LKZ

DOT Proper Shipping Name: PETROLEUM DISTILLATES, N.O.S. OR PETROLEUM
PRODUCTS, N.O.S.

DOT Class: 3

DOT ID Number: UN1268

DOT Pack Group: III

DOT Label: FLAMMABLE LIQUID

IMO PSN Code: LMH

IMO Proper Shipping Name: PETROLEUM DISTILLATES, N.O.S. o

IMO Regulations Page Number: 3375

IMO UN Number: 1268

IMO UN Class: 3.3

IMO Subsidiary Risk Label: -

IATA PSN Code: TJB

IATA UN ID Number: 1268

IATA Proper Shipping Name: PETROLEUM DISTILLATES, N.O.S.

IATA UN Class: 3

IATA Label: FLAMMABLE LIQUID

AFI PSN Code: TJB

AFI Prop. Shipping Name: PETROLEUM DISTILLATES, N.O.S.

AFI Class: 3

AFI ID Number: UN1268

AFI Pack Group: III

AFI Basic Pac Ref: 7-7

N.O.S. Shipping Name: CONTAINS PETROLEUM DISTILLATE.

Additional Trans Data: MSDS GIVES FLASH POINT RANGE 120F-180F, BOILING
POINT RANGE 340F-675F.

Disposal Data

Label Data

Label Required: YES

Technical Review Date: 07MAR91

Label Status: F

Common Name: AMOFUEL NO. 2 DIESEL

Chronic Hazard: NO

Signal Word: WARNING!

Acute Health Hazard-Slight: X

Contact Hazard-Slight: X

Fire Hazard-Moderate: X

Reactivity Hazard-None: X

Special Hazard Precautions: EYE:IRRITATION. SKIN:MILDLY IRRITATING.

RESPIRATORY SYSTEM IRRITATION AND LIGHT HEADEDNESS. MAY CAUSE NAUSEA, HEADACHE, DROWSINESS, VOMITING. INGESTION:SOLVENT ASPIRATION INTO LUNGS AS A RESULT OF VOMITING MAY CAUSE LUNG AND DIGESTIVE SYSTEM DAMAGE REMOVE ALL SOURCES OF IGNITION. VENTILATE AND REMOVE WITH INERT ABSORBENT. USE NON-SPARKING TOOLS. CONTENTS ARE FLAMMABLE. KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME. DURING USE AND UNTIL ALL VAPORS ARE GONE: KEEP AREA VENTILATED- DO NOT SMOKE.

Protect Eye: Y

Protect Skin: Y

Protect Respiratory: Y

Label Name: AMOCO INTERNATIONAL OILCO

Label Street: 200 E RANDOLPH DR

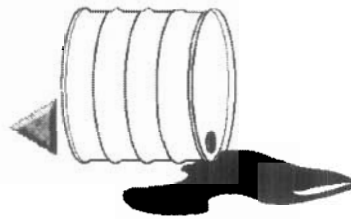
Label P.O. Box: 5910-A

Label City: CHICAGO

Label State: IL

Label Zip Code: 60680

Label Country: US



MSDSdefinition
terms**Material Safety Data Sheet for Gasoline****1. Chemical Product****MSDS Number:** U4080**MSDS Date:** 01-1-99**Product Name:** Gasoline
 24 Hour Emergency Phone: (210) 979-8346
 Transportation Emergencies: Call Chemtrec at 1-800-424-9300
 MSDS Assistance: (210) 592-4593
Distributors Name and Address:

T.W. Brown Oil Co., Inc.
 1857 Knoll Drive
 Ventura, California 93003

Chemical Name: Gasoline**Cas Number:** 8006-61-9

Synonyms/Common Names: This Material Safety Data Sheet applies to the following product descriptions for Hazard Communication purposes only. Technical specifications vary greatly depending on the product, and are not reflected in this document. Consult specification sheets for technical information.

Unleaded Gasoline Blendstocks/Subgrades- all types, grades, octanes, and vapor pressures.
California Air Resources Board (Carb) Gasoline- all grades, octanes, vapor pressures, and oxygenate blends.

Reformulated Gasoline (RFG)-all grades, octanes, vapor pressures, and oxygenate blends.

California Reformulated Gasoline (CARFG)-all grades, octanes, vapor pressures, and oxygenate blends.

Conventional Gasoline-all grades, octanes, vapor pressures, and oxygenate blends.

2. Composition, Information On Ingredients

Product Use: This product is intended for use as a fuel in engines or for use in engineered processes. Use in other applications may result in higher exposures and require additional controls, such as local exhaust ventilation and personal protective equipment.

Description: Reformulated gasoline is a complex mixture of hydrocarbons from a variety of chemical processes blended to meet standardized product specifications. Composition varies greatly and includes C₇ to C₁₂ hydrocarbons with a boiling range of about 80–473 degrees F. The following is a non-exhaustive list of common components, typical percentage ranges in product, and occupational exposure limits for each. Functional and performance additives may also be present at concentrations below reporting thresholds.

Component or Material Name	%	CAS Number	ACGIH Limits TLV -- STEL -- Units	OSHA Exposure Limits PEL -- STEL -- C/P -- Units
Gasoline	90-100	Mixture	300--500--ppm	NA--NA--NA -- ----
Butane	<9	106-97-8	800--NA--ppm	NA--NA--NA -- ----
Pentane	<6	109-66-0	600--750--ppm	1000--NA--NA--ppm
n-Hexane	<4	110-54-3	50--NA--ppm	500--NA--NA--ppm
Hexan(other isomers)	<8	NA	500--1,000--ppm	NA--NA--NA-- ----
Benzene	1.2 - 4.9	7-4-2	0.5--2.5--ppm	1--5--NA--ppm
N-heptane	<2	14-82-5	400--500--ppm	500--NA--NA--ppm

Ethylbenzene	<2	100-41-4	100--125--ppm	100--NA--NA--ppm
Xylene (o,m,p, - isomers)	<11	1330-20-7	100--150--ppm	100--NA--NA--ppm
Cyclohexane	<2	110-82-7	300--NA--ppm	300--NA--NA--ppm
Trimethylbenzene	<4	25551-13-7	25--NA--ppm	NA-NA-NA- ----
Methyl-t-butyl ether (MTBE)	0-15	1634-04-4	40--NA--ppm	NA-NA-NA- ----
Toluene	<12	108-88-3	50-NA-ppm	200-300/500-NA-ppm
Ethyl-t-butyl ether (ETBE)	0-7	637-92-3	N/A-NA-ppm	NA-NA-NA- ----
t-amyl-methyl-ether	0-5	994-05-8	N/A-NA-ppm	NA-NA-NA- ----
Ethanol	0-11	64-17-5	1,000-NA-ppm	1,000-NA-NA-ppm

C=Ceiling concentration not to be exceeded at any time. P= Peak concentration for a single 10 minute exposure per day.

3. Hazards Identification

Health Hazard Data:

1. The major effect of exposure to this product is central nervous system depression and polyneuropathy.
2. Studies have shown that repeated exposure of laboratory animals to high concentrations of whole gasoline vapors at 67,262 and 2056 ppm has caused kidney damage and cancer of the kidney in rats and liver cancer in mice.
3. LARC has listed gasoline as possibly carcinogenic (2B) to humans with limited evidence in humans in the absence of sufficient evidence in experimental animals. NIOSH lists gasoline as a carcinogen with no further classification.
4. N-heptane and cyclohexane cause narcosis and irritation of eyes and mucous membranes. Cyclohexane has been reported to cause liver and kidney changes in rabbits. N-heptane has been reported to cause polyneuritis following prolonged exposure.
5. ACGIH lists benzene a human carcinogen with and assigned TLV of 0.5 ppm 8 hour TWA and a STEL of 2.5 ppm; IARC, NTP & OSHA show sufficient evidence for classifying Benzene as a human carcinogen, see 29 CFR 1910.1028 for current PEL of 1 ppm and specific actions to take. Studies have shown that benzene can induce leukemia at concentrations as low as 1 ppm. Significant elevations of chromosomal aberrations have been corroborated among workers exposed to levels at mean concentrations less than 10 ppm. Based on risk assessment studies by Rinsky, an individual inhaling 1 ppm of benzene for 40 years, the odds of benzene-induced leukemic death were 1.7 times higher than those of unexposed workers.
6. MTBE is a mild irritant to the eye with an LC50 of 85 mg/m³ on 4 hr. exposure and an LD50 ~4 ml/Kg (RATS). An increase in anesthesia with increasing concentration (250,500 & 1000 ppm) was observed during a 90 day Test exposure. ACGIH has listed MTBE as an animal carcinogen (A3) based on tests in experimental animals at relatively high dose levels, by routes of administration, at sites, of histologic types, or by mechanisms not considered relevant to worker exposure. Available evidence suggests that MTBE is not likely to cause cancer in humans except under uncommon or unlikely routes of levels of exposure.
7. Trimethylbenzene (pseudocumene (1,2,4,) & mesitylene (1,2,5,)) has a PEL and TLV of 25 ppm 8 hr. TWA; the isomers may cause nervousness, tension, and anxiety and asthmatic bronchitis.
8. n-Hexane has been shown to cause polyneuropathy (peripheral nerve damage) after repeated and prolonged exposure, other hexanes show narcotic effects at 1000 ppm and are not metabolized like n-hexane.
9. Toluene can cause impairment of coordination and momentary loss of memory (200-500 ppm); Palpations, extreme weakness and pronounced loss of coordination (500-1500). The 100 ppm 8

hr. TWA and the 150 ppm STEL provides adequate protection.

10. The toxicological effects of ETBE and TAME have not been thoroughly investigated. ETBE and TAME are expected to be an inhalation hazard and a severe eye and moderate skin irritant.

Hazards of Combustion Products: Carbon monoxide and carbon dioxide can be found in the combustion products of this product and other forms of hydrocarbon combustion. Carbon monoxide in moderate concentrations can cause symptoms of headache, nausea, vomiting, increased cardiac output, and confusion. Exposure to higher concentrations of carbon monoxide can cause loss of consciousness, heart damage, brain damage, and/or death. Exposure to high concentrations of carbon dioxide can cause simple asphyxiation by displacing available oxygen. Combustion of this and other similar materials should only be carried out in well ventilated areas.

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MSDS

definition of
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Material Safety Data Sheet Gasoline

Medical Condition Generally Aggravated By Exposure: Medical conditions which have the same symptoms and effects as those outlined under the health hazard information section can be aggravated by exposure to this product.

Medical Limitation: N/A

Routes Of Exposure

Inhalation: Irritation of the upper respiratory tract with central nervous system stimulation possible followed by depression, dizziness, headache, incoordination, anaesthesia, coma, and respiratory arrest. The threshold for immediate mild toxic effects is reported to be 900-1000 ppm.

Skin Contact: Defatting of the skin may occur with continued and prolonged contact. Irritation and burning sensation may occur on exposure to the liquid or high vapor phase exposure..

Skin Absorption: Benzene is absorbed directly through intact skin.

Eye Contact: Contact with liquid will cause severe burning sensation with temporary irritation and swelling of lids. Vapor in concentrations of 160-270 ppm in air will irritate the eye.

Ingestion: Irritation of the mucous membranes of throat, esophagus and stomach which may result in nausea and vomiting; depression may occur, if absorbed (see inhalation symptoms above). If aspirated, chemical pneumonitis may occur with potentially fatal results.

Carcinogenicity Statement: Gasoline mixtures are not listed as carcinogenic by NTP, OSHA, and ACGIH. Gasoline mixtures are listed as a possible carcinogen by IARC (2B) and NIOSH. Benzene is listed as a confirmed human carcinogen by IARC, NTP, OSHA, NIOSH, and ACGIH.

4. First Aid Measures

Eyes: Immediately flush eyes with large amount of water for at least 15 minutes holding lids apart to ensure flushing of the entire eye surface. **SEEK IMMEDIATE MEDICAL ATTENTION.**

Skin: Wash contaminated areas with plenty of soap and water. A soothing ointment may be applied to irritated skin after thoroughly cleansing. Remove contaminated clothing and footwear **SEEK IMMEDIATE MEDICAL ATTENTION.**

Inhalation: Get person out of contaminated area to fresh air. If breathing has stopped resuscitate and administer oxygen if readily available. **SEEK MEDICAL ATTENTION IMMEDIATELY.**

Ingestion: Never give anything by mouth to an unconscious person. If swallowed, do not induce vomiting. If vomiting occurs spontaneously, keep airway clear. **SEEK MEDICAL ATTENTION IMMEDIATELY.**

Note to Physician: Gastric lavage only if large quantity has been ingested. Guard against aspiration into lungs which may result in chemical pneumonitis. Irregular heart beat may occur, use of adrenaline is not advised. Treat symptomatically.

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MSDSDefinition of
terms**Material Safety Data Sheet for Gasoline****5. Fire and Explosion Data****Flash Point:** <-40 degrees (Estimated)**Autoignition Temperature:** 480 degrees F**Flammable Limits In Air:** UEL: 7.1% - LEL: 1.3%

Extinguishing Media: Use dry chemical, carbon dioxide, foam or water spray. Water may be ineffective in fighting fires of liquids with low flash points, but water should be used to keep fire exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect persons attempting to stop a leak.

Special Fire Fighting Procedures: Pressure-demand, self contained, breathing apparatus should be provided for fire fighters engaged in activities in the hot zone.

Unusual Fire And Explosion Hazard: Vapors may travel extended distances and flashback with explosive force if ignition sources are present. Clothing, rags, or similar organic material contaminated with the product and stored in a closed space may undergo spontaneous combustion.

6. Accidental Release Measures

Eliminate all sources of ignition (flames, sparks, heat, electrical equipment, and engines) and remove non-response personnel from the spill area. Contain liquids with earthen dikes or petroleum absorbent materials. Prevent discharges to streams or sewer systems. Control vapors from large spills with fire-fighting foam. Remove liquid with explosion-proof equipment and grounded and bonded suction hoses. Report spills or releases as required to the appropriate local, state and federal regulatory agencies.

7. Handling and Storage Information

This product is intended for use as engine fuel only. Protect containers against physical damage. Outside or detached storage or underground storage is preferred. Separate from oxidizing materials. Store in cool, well ventilated area of non-combustible construction away from possible sources of ignition (flames, sparks, heat, electrical equipment, and engines). Transfer with explosion-proof equipment and grounded and bonded transfer lines. Consult NFPA 30 and OSHA 1910.106 for specific requirements.

8. Exposure Controls/Personal Protection

Ventilation Requirements: Work in well ventilated areas using good engineering practices to process, transfer and store. Explosion-proof equipment is required. Vapor recovery systems may be required in some areas. Mechanical ventilation is required for confined spaces such as tanks and vessels.

Specific Personal Protective Equipment

Respiratory: Respiratory protection is not normally not required when transferring material in well ventilated areas. When transferring in enclosed areas or at high temperatures, vapors concentrations may warrant use of respiratory equipment. Use NIOSH approved respiratory protection following manufacture's recommendations. Positive pressure supplied air respiratory protection is required for IDLH areas; follow ANSI Z88.2.

Eye: Face shield and goggles or chemical goggles should be worn where splashing is likely.

Gloves: Impermeable protective gloves such as nitrile gloves should be worn during routine handling of this product.

Other Clothing and Equipment: Standard work clothing is sufficient with good practices. Clothing contaminated with this product should be removed and laundered before reuse. Items which can not be laundered should be discarded. Allow contaminated items to air dry or hang in a well ventilated area. Spontaneous combustion or fire may result from contaminated materials being placed together before drying. Shower and eyewash facilities should be accessible.

Special Work Practices:

- (1) Wear impervious gloves such as nitrile gloves when "dip-sticking storage tanks"
- (2) Work up-wind of small spills during clean-up
- (3) DO NOT USE THIS PRODUCT as a solvent for cleaning equipment or skin
- (4) Store small quantities ONLY in "SAFETY CANS" approved for gasoline storage and labeled "GASOLINE"
- (5) Allow contaminated rags to completely dry in a well ventilated area before storage

Exposure Monitoring

Biological: No applicable procedure, breath analysis for hydrocarbons has been suggested. Below are biological monitoring procedures for certain ingredients:

ANALYTE	DETERMINANT	SAMPLING TIME	BIOLOGICAL EXPOSURE INDEX (BEI)
Benzene	S-phenylmercapturic acid in urine	End of shift	25 ug/g creatinine
Toluene	Hippuric acid in urine	End of shift	1.6 g/g creatinine
	Toluene in venous blood	Prior to last shift of week	0.05 mg/L
n-Hexane	2,5-Hexanedione in urine	End of shift	5 mg/g creatinine
	n-Heane in exhaled air		Semiquantitative
Ehtylbenzene	Mandelic acid in urine	End of last shift of week	1.5 g/g creatinine
	Ehtylbenzene in exhaled air		Semiquantitative
Xylene	Methylhippuric acid in urine	End of shift	1.5 g/g creatinine

Personal/Area: Both active and passive air monitoring utilizing activated charcoal absorption followed by gas chromatography are recommended. A molecular weight of 72.5 has been suggested as the average value to convert total hydrocarbon results from milligrams per cubic meter to ppm. Direct reading indicating tubes are available to evaluate short term exposure.

9. Physical and Chemical Properties

Appearance and Odor: Clear, pink, or blue tinted liquid with characteristic, pungent odor: odor threshold is 0.25 ppm and is not an index of exposure.

Boiling Range @ 760 mm Hg: 80-437 degrees F

Melting Point: NA

Vapor Density (Air=1): 3.0-4.0

Evaporation Rate (BuAc=1): N/A

Specific Gravity (H2O=1): 0.68-0.76 @60 degrees F

Bulk Density At 60 degrees F: 5.7-6.3 lbs./gal.

Solubility in H2O % by WT.: Trace

Reid Vapor Pressure: 6.8-15 PSI

% Volatiles By Vol.: ~100

API Gravity: 50-75

pH: NA

Ron: 89-98

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MSDS**INDEX****Glycent 46 Hydraulic Fluid (10,000 psi)****1. IDENTIFICATION**

Product Name: **Glycent 46 Hydraulic Fluid (10,000 psi)**
 Reference Number: N/A
 Company Information: Fuchs Lubricants Canada Ltd.
 Century Oils Division
 19829-99A Avenue
 Langley, B.C., Canada V1M 3G4
 Emergency Phone: (405)888-1552

2. HAZARDOUS INGREDIENTS

Components	CAS No.	Average Concentration	Concentration Range	Units
Not a controlled product according to WHMIS regulations				

3. PHYSICAL DATA

Physical State: Liquid
 Odour & Appearance: Clear red liquid
 Odour Threshold: N/A
 Vapour Pressure: N/A
 Vapour Density: N/A
 Evaporation Rate: <1 (ether=1)
 Boiling Point: 100°C
 Freezing Point: -57°C (pour point)
 pH: 9.5
 Specific Gravity: 1.089 @ 15.6°C
 Coeff. Water/Oil Dist.: >1

4. FIRE & EXPLOSION DATA

Flammability: No
 Means of extinction: Apply alcohol-type or foam for large fires. Apply water spray, carbon dioxide or dry chemical for small fires.
 Flashpoint & Method: None (PMCC)
 Hazardous Combustion Products: Combustion can produce CO, CO2 and nitrogen oxides
 Autoignition Temp.: N/A
 Upper Flammable Limit: N/A
 Lower Flammable Limit: N/A
 Sensitivity to Impact: N/A
 Sensitivity to Static Discharge: N/A

5. REACTIVITY DATA

Chemical Stability: Yes
 Incompatibility w/other substances: Yes
 If so, which ones? Normally unreactive, however, if water is evaporated, avoid strong oxidizing agents and materials with hydroxyl compounds.
 Reactivity: Normally unreactive, however, if water is evaporated, avoid strong

Hazardous Decomposition Products:	oxidizing agents and materials with hydroxyl compounds Evaporation of water and combustion can produce CO, CO ₂ , and nitrogen oxides.
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6. **TOXICOLOGICAL PROPERTIES**

Route of entry:	Skin contact; Eye contact; Ingestion
Effects of Acute Exposure:	Small doses may cause pain and discomfort
Effects of Chronic Exposure:	None known
Exposure Limits:	None established
Irritancy of Product:	May cause temporary discomfort in eyes
Sensitization to Product:	None known
Carcinogenicity:	None known
Teratogenicity:	None known
Reproductive Toxicity:	None known
Mutagenicity:	None known
Synergistic Products:	None known

7. **PREVENTIVE MEASURES**

Personal Protective Equipment:

Gloves:	Rubber or PVC coated
Respirator:	NIOSH or MSHA mask with pre-filter if mists in air
Eye:	CSA approved safety glasses
Footwear:	Normal non-slip industrial footwear
Clothing:	Coveralls are normally sufficient
Engineering Controls:	Normal room ventilation may be adequate at ambient temperatures or covered equipment. In the event of misting, local exhaust ventilation is needed.
Leak and Spill Procedure:	Small spills should be flushed with large volumes of water. Large spills should be collected for disposal
Waste Disposal:	Send to a licensed reclaimer/waste disposal facility, incinerate or landfill to meet federal, provincial and local regulations.
Handling Procedures & Equipment:	Do not take internally. Wash after handling. Do not inhale mist or vapour. Use with adequate ventilation. Avoid contact with eyes.
Storage Requirements:	Keep in a tightly closed container. Do not allow water to evaporate. Do not store with incompatible substances.
Special Shipping Requirements:	TDG: Not regulated

8. **FIRST AID MEASURES**

Eyes:	Wash with water for 15 minutes. Consult a doctor if irritation persists
Skin:	Wash with soap and water. Remove contaminated clothing and launder before re-use.
Ingestion:	If conscious, give 2 glasses of water and induce vomiting. Call a physician.
Inhalation:	Remove to fresh air. Call a physician if discomfort persists.

9. **PREPARATION DATE OF MSDS**

Prepared by:	Chemical Services Department
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Phone Number:	(604)888-1552
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Date:	February 29, 2002
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**SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

PRODUCT NAME: AMERICA'S CHOICE MOTOR OIL
Includes grades 5W-30; 10W-30; 10W-40; 15W-40; 20W-20;
20W-50; 10W; 20W; 30; 40

SYNONYMS: Petroleum oil; Lube oil; Petroleum hydrocarbon; Lubricant.

PRODUCT CODE: Prefix 21

PRODUCT USE: For lubricating passenger car motors.
If this product is used in combination with other products, refer to the
Material Safety Data Sheets for those products.

	24-HOUR EMERGENCY TELEPHONES	
	MEDICAL:	TRANSPORTATION (SPILL):
These numbers are for emergency use only. If you desire non-emergency product information, please call a telephone number listed below.	1-800-752-7869(USA)	1-800-468-1760 (USA)
	Extension 2	
	1-312-906-6194 (CANADA)	1-613-996-6666 (CANADA)

MANUFACTURER/SUPPLIER: Safety-Kleen Corp.
One Brinckman Way
Elgin, IL, 60123-7857 USA
1-800-669-5740

TECHNICAL INFORMATION: 1-800-265-2792

MSDS FORM NUMBER: 82479

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PREPARED BY: Product MSDS Coordinator

APPROVED BY: MSDS Task Force

AMERICA'S CHOICE MOTOR OIL

MATERIAL SAFETY DATA SHEET FOR USA AND CANADA

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

WT% ^h	NAME	SYNONYM	CAS NO.	OSHA PEL		ACGIH TLV		LD ^a	LC ^b
				TWA mg/m ³	STEL	TWA mg/m ³	STEL mg/m ³		
40 to 95	Lubricating oils, petroleum, hydro-treated spent	Hydrotreated paraffinic base oil	64742-58-1	5 ^c	N.Av.	5 ^c	10 ^{c,d}	>15000 ^{e,f}	N.Av.
0 to 50	Residual oils (petroleum), solvent-dewaxed	Bright stock	64742-62-7	5 ^c	N.Av.	5 ^c	10 ^{c,d}	>10000 ^f	N.Av.
0 to 50	Residual oils (petroleum), hydrotreated	Bright stock	64742-57-0	5 ^c	N.Av.	5 ^c	10 ^{c,d}	N.Av.	N.Av.
0 to 50	Lubricating oils, petroleum, C>25, hydrotreated bright-stock based	Bright stock	72623-83-7	5 ^c	N.Av.	5 ^c	10 ^{c,d}	>5000 ^g	N.Av.
0 to 33**	Mineral oil	***	***	5 ^c	N.Av.	5 ^c	10 ^{c,d}	N.Av.	N.Av.
0 to 25	Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	N.Av.	72623-86-0	5 ^c	N.Av.	5 ^c	10 ^{c,d}	N.Av.	N.Av.
0 to 25	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, high viscosity	N.Av.	72623-85-9	5 ^c	N.Av.	5 ^c	10 ^{c,d}	N.Av.	N.Av.
0 to 25	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil based	N.Av.	72623-87-1	5 ^c	N.Av.	5 ^c	10 ^{c,d}	>5000	N.Av.
0 to 1.5	Phosphorodithioic acid, O-O-di-C1-14-alkyl esters, zinc salts*	Dialkyl (C1-C14) dithiophosphoric acid, zinc salt	68649-42-3	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.

N.Av. = Not Available

*See **SECTION 15: SARA TITLE III**

**Supplier advised that the concentration is a trade secret; however, it will fall within this range.

***Supplier advises that this is a trade secret.

^aOral-Rat LD50 (mg/kg)

^bInhalation LC

^cBased on Oil mist, mineral.

^dNotice of Intended Changes: N.Av. (value to be eliminated)

^eBased on similar materials.

^fSkin-Rabbit LD50 is greater than 2000 mg/kg

^gSkin-Rabbit LD50 is greater than 3000 mg/kg

^hEven though the concentration range does not fall under the ranges prescribed by WHMIS, this is the actual range which varies with each batch of the product.

See 29 CFR 1910.1000(d)(2) and ACGIH *Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices* booklet (Appendix C) for the determination of exposure limits for mixtures. Consult an industrial hygienist or similar professional to confirm that the calculated exposure limits are appropriate.

AMERICA'S CHOICE MOTOR OIL
MATERIAL SAFETY DATA SHEET FOR USA AND CANADA

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION!

APPEARANCE

Liquid, amber, petroleum odor.

IMMEDIATE HAZARDS

Causes respiratory tract (nose, throat, and lungs), eye, and skin irritation.

POTENTIAL HEALTH EFFECTS

INHALATION (BREATHING): High concentrations of vapor or mist may irritate the respiratory tract (nose, throat, and lungs).

EYES: Direct contact with product may cause irritation.

SKIN: Direct contact with product may cause irritation. A single, prolonged exposure is not likely to cause the product to be absorbed through the skin in harmful amounts.

INGESTION (SWALLOWING): May cause throat irritation, nausea, vomiting, and diarrhea. Breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Individuals with pre-existing respiratory tract (nose, throat, and lungs) and/or skin disorders may have increased susceptibility to the effects of exposure.

CHRONIC: Prolonged or repeated skin contact may cause drying, cracking, redness, itching, and/or swelling. Prolonged or repeated inhalation of oil mist may cause oil pneumonia, lung tissue inflammation, and/or fibrous tissue formation.

CANCER INFORMATION: No known carcinogenicity. For more information, see **SECTION 11: CARCINOGENICITY**.

Also see **SECTION 15: CALIFORNIA**.

SECTION 4: FIRST AID MEASURES

INHALATION: (BREATHING) Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Someone should stay with victim. Get medical attention if breathing difficulty persists.