



CITGO Clair[®] Oil 160

Material Safety Data Sheet

CITGO Petroleum Corporation
P.O. Box 3758
Tulsa, OK 74102-3758

MSDS No. 639551001
Revision Date 01/23/2003

IMPORTANT: Read this MSDS before handling or disposing of this product and pass this information on to employees, customers and users of this product.

Emergency Overview

Physical State Liquid.
Color Light amber to amber **Odor** Petroleum.

CAUTION:

Skin irritation can result from prolonged or repeated contact with used metalworking fluids.

Protect exposed skin from repeated or prolonged exposure.

Wash skin thoroughly with soap and water after contact.

Launder oil-contaminated clothing before reuse.

Spills may create a slipping hazard.

Hazard Rankings

	HMIS	NFPA
Health Hazard	1	0
Fire Hazard	1	1
Reactivity	0	0

* = Chronic Health Hazard

Protective Equipment

Minimum Recommended
See Section 8 for Details



SECTION 1: IDENTIFICATION

Trade Name	CITGO Clair [®] Oil 160	Technical Contact	(800) 248-4684
Product Number	639551001	Medical Emergency	(918) 495-4700
CAS Number	Mixture.	CHEMTREC Emergency (United States Only)	(800) 424-9300
Product Family	Metalworking fluid		
Synonyms	Metalworking fluid; CITGO SAP Product Code No.: 639551001		

SECTION 2: COMPOSITION

Component Name(s)	CAS Registry No.	Concentration (%)
1) Distillates, petroleum, hydrotreated heavy naphthenic	64742-52-5	0 - 100
2) Distillates, petroleum, hydrotreated light naphthenic	64742-53-6	0 - 90
3) Distillates, petroleum, solvent-refined light paraffinic	64741-89-5	0 - 60
4) Distillates, petroleum, solvent-refined heavy paraffinic	64741-88-4	0 - 50
5) Chlorinated olefins	68527-02-6	0 - 2
6) Chlorinated paraffins	61788-76-9	0 - 2
7) Proprietary Ingredients	Proprietary Mixture	0 - 2

SECTION 3: HAZARDS IDENTIFICATION

Also see Emergency Overview and Hazard Ratings on the top of Page 1 of this MSDS.

Major Route(s) of Entry Skin contact. Eye contact. Inhalation.

Signs and Symptoms of Acute Exposure

Inhalation Product mist can irritate the mucous membranes of the nose, the throat, bronchi, and lungs.

CITGO Clair® Oil 160

Eye Contact	This product can cause transient mild eye irritation with short-term contact with liquid sprays or mists.
Skin Contact	This material can cause mild skin irritation from prolonged or repeated skin contact. Injection under the skin can cause inflammation and swelling. Injection of pressurized hydrocarbons can cause severe, permanent tissue damage. Initial symptoms may be minor. Injection of petroleum hydrocarbons requires immediate medical attention.
Ingestion	If swallowed, large volumes of material can cause generalized depression, headache, drowsiness, nausea, vomiting and diarrhea. Smaller doses can cause a laxative effect. If aspirated into the lungs, liquid can cause lung damage.
Chronic Health Effects Summary	Prolonged or repeated skin contact can cause irritation and inflammation characterized by drying, cracking, (dermatitis) or acne. In addition, incidents of allergic contact dermatitis have been reported from exposure to some used metalworking fluids. Repeated exposure to metal working fluid mists at concentrations above applicable workplace exposure levels have been associated with respiratory irritation or other pulmonary effects.
Conditions Aggravated by Exposure	Medical conditions aggravated by exposure to this material may include pre-existing skin disorders, allergies and chronic respiratory diseases.
Target Organs	This material may cause damage to the following organs: upper respiratory tract, skin.
Carcinogenic Potential	This product does not contain any components at concentrations above 0.1% which are considered carcinogenic by OSHA, IARC or NTP.

OSHA Hazard Classification is indicated by an "X" in the box adjacent to the hazard title. If no "X" is present, the product does not exhibit the hazard as defined in the OSHA Hazard Communication Standard (29 CFR 1910.1200).

OSHA Health Hazard Classification				OSHA Physical Hazard Classification					
Irritant	☐	Toxic	☐	Combustible	☐	Explosive	☐	Pyrophoric	☐
Sensitizer	☐	Highly Toxic	☐	Flammable	☐	Oxidizer	☐	Water-reactive	☐
Corrosive	☐	Carcinogenic	☐	Compressed Gas	☐	Organic Peroxide	☐	Unstable	☐

SECTION 4: FIRST AID MEASURES

Take proper precautions to ensure your own health and safety before attempting rescue or providing first aid. For more specific information, refer to Exposure Controls and Personal Protection in Section 8 of this MSDS.

Inhalation	Move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If breathing is difficult, 100 percent humidified oxygen should be administered by a qualified individual. Seek medical attention immediately. Keep the affected individual warm and at rest.
Eye Contact	Check for and remove contact lenses. Flush eyes with cool, clean, low-pressure water while occasionally lifting and lowering eyelids. Seek medical attention if excessive tearing, redness, or pain persists.
Skin Contact	If burned by hot material, cool skin by quenching with large amounts of cool water. For contact with product at ambient temperatures, remove contaminated shoes and clothing. Wipe off excess material. Wash exposed skin with mild soap and water. Seek medical attention if tissue appears damaged or if pain or irritation persists. Thoroughly clean contaminated clothing before reuse. Discard contaminated leather goods. If material is injected under the skin, seek medical attention immediately.
Ingestion	Do not induce vomiting unless directed to by a physician. Do not give anything to drink unless directed to by a physician. Never give anything by mouth to a person who is not fully conscious. If significant amounts are swallowed or irritation or discomfort occurs, seek medical attention immediately.
Notes to Physician	The viscosity range of the product represented by this MSDS is 100 to 400 SUS at 100° F. Accordingly, upon ingestion there is a low to moderate risk of aspiration. Careful gastric lavage may be considered to evacuate large quantities of material. Subcutaneous or intramuscular injection requires prompt surgical debridement.

SECTION 5: FIRE FIGHTING MEASURES

NFPA Flammability Classification	NFPA Class-IIIB combustible material. Slightly combustible!		
Flash Point Method	OPEN CUP: >157°C (>315°F) (Cleveland.).		
Lower Flammable Limit	No data.	Upper Flammable Limit	No data.
Autoignition Temperature	Not available.		
Hazardous Combustion Products	Combustion gases may contain carbon monoxide, carbon dioxide, and irritating or acrid combustion products. Also, depending upon the conditions of use, low concentrations of hydrogen sulfide can be released. Hydrogen chloride gas can evolve at elevated temperatures and with decomposition and combustion.		
Special Properties	This material will release vapors when heated above the flash point temperature that can ignite when exposed to a source of ignition. In enclosed spaces, vapors can ignite with explosive force. Mists or sprays may burn at temperatures below the flash point.		
Extinguishing Media	Use dry chemical, foam, Carbon Dioxide or water fog.		
Protection of Fire Fighters	Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies.		

SECTION 6: ACCIDENTAL RELEASE MEASURES

Take proper precautions to ensure your own health and safety before attempting spill control or clean-up. For more specific information, refer to the Emergency Overview on Page 1, Exposure Controls and Personal Protection in Section 8 and Disposal Considerations in Section 13 of this MSDS.

Do not touch damaged containers or spilled material unless wearing appropriate protective equipment. Slipping hazard; do not walk through spilled material. Stop leak if you can do so without risk. For small spills, absorb or cover with dry earth, sand, or other inert non-combustible absorbent material and place into waste containers for later disposal. Contain large spills to maximize product recovery or disposal. Prevent entry into waterways or sewers. In urban area, cleanup spill as soon as possible. In natural environments, seek cleanup advice from specialists to minimize physical habitat damage. This material will float on water. Absorbent pads and similar materials can be used. Comply with all laws and regulation

SECTION 7: HANDLING AND STORAGE

Handling	Avoid contamination and extreme temperatures to minimize product degradation. Empty containers may contain product residues that can ignite with explosive force. Do not pressurize, cut, weld, braze solder, drill, grind or expose containers to flames, sparks, heat or other potential ignition sources. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers and/or waste residues of this product.
Storage	Keep container closed. Do not store with strong oxidizing agents. Do not store at elevated temperatures. Avoid storing product in direct sunlight for extended periods of time. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers or waste residues of this product.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists and/or vapors below the recommended exposure limits (see below). An eye wash station and safety shower should be located near the work-station.
-----------------------------	--

CITGO Clair® Oil 160

Personal Protective Equipment

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations. The following pictograms represent the minimum requirements for personal protective equipment. For certain operations, additional PPE may be required.



Eye Protection

Safety glasses equipped with side shields are recommended as minimum protection in industrial settings. Wear goggles and/or face shield if splashing or spraying is anticipated. Wear goggles and face shield if material is heated above 125°F (51°C). Have suitable eye wash water available.

Hand Protection

Avoid skin contact. Use gloves constructed of chemical resistant materials such as neoprene or heavy nitrile rubber or appropriate barrier creams with prolonged or repeated contact. If the product is processed or handled at elevated temperature, protect against thermal burns by using heat-resistant (insulated) gloves. Do not wear gloves or loose fitting clothing around rotating or moving equipment. Use good personal hygiene practices.

Body Protection

Use clean and impervious protective clothing (e.g., neoprene or Tyvek®) if splashing or spraying conditions are present. Protective clothing may include long-sleeve outer garment, apron, or lab coat. If significant contact occurs, remove oil-contaminated clothing as soon as possible and promptly shower. Launder contaminated before reuse or discard. Wear heat protective boots and protective clothing when handling material at elevated temperatures.

Respiratory Protection

Use adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).

General Comments

Use good personal hygiene practices. Wash hands and other exposed skin areas with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities, or leaving work. DO NOT use gasoline, kerosene, solvents or harsh abrasives as skin cleaners. Since specific exposure standards/control limits have not been established for this product, the "Oil Mist, Mineral" exposure limits shown below are suggested as minimum control guidelines.

Occupational Exposure Guidelines

Substance

1) Oil Mist, Mineral

Applicable Workplace Exposure Levels

ACGIH (United States).

TWA: 5 mg/m³

STEL: 10 mg/m³

OSHA (United States).

TWA: 5 mg/m³

2) Metal Working Fluid

NIOSH (United States). Notes: *Thoracic particulate mass

TWA: 0.4 mg/m³

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid.	Color	Light amber to amber	Odor	Petroleum.
Specific Gravity	0.90 - 0.92 (Water = 1)	pH	Not Applicable.	Vapor Density	>1 (Air = 1)
Boiling Point/Range	Not available.			Melting/Freezing Point	Not available.
Vapor Pressure	<0.001 kPa (<0.01 mmHg) (at 20°C)			Viscosity (cSt @ 40°C)	32 - 33
Solubility in Water	Insoluble in cold water.			Volatile Characteristics	Negligible volatility
Additional Properties	Gravity, °API (ASTM D287) = 22 - 25 @ 60° F Density = 7.5 - 7.7 Lbs/gal. Viscosity (ASTM D2161) = AP 170 SUS @ 100° F				

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability	Stable.	Hazardous Polymerization	Not expected to occur.
Conditions to Avoid	Keep away from extreme heat, sparks, open flame, and strongly oxidizing conditions. Hydrogen sulfide and other sulfur-containing gases can evolve from this product particularly at elevated temperatures.		
Materials Incompatibility	Strong oxidizers.		
Hazardous Decomposition Products	No additional hazardous decomposition products were identified other than the combustion products identified in Section 5 of this MSDS.		

SECTION 11: TOXICOLOGICAL INFORMATION

For other health-related information, refer to the Emergency Overview on Page 1 and the Hazards Identification in Section 3 of this MSDS.

Toxicity Data

Distillates, petroleum, solvent-refined light paraffinic:

ORAL (LD50): Acute: >5000 mg/kg [Rat].
DERMAL (LD50): Acute: >2000 mg/kg [Rabbit].

Distillates, petroleum, solvent-refined heavy paraffinic:

ORAL (LD50): Acute: >5000 mg/kg [Rat].
DERMAL (LD50): Acute: >2000 mg/kg [Rabbit].

Distillates, petroleum, hydrotreated light naphthenic:

ORAL (LD50): Acute: >5000 mg/kg [Rat].
DERMAL (LD50): Acute: >2000 mg/kg [Rabbit].

Distillates, petroleum, hydrotreated heavy naphthenic:

ORAL (LD50): Acute: >5000 mg/kg [Rat].
DERMAL (LD50): Acute: >2000 mg/kg [Rabbit].

Distillates, petroleum, solvent-refined light paraffinic:

Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects. In long term studies (up to two years) no carcinogenic effects have been reported in any animal species tested.

Distillates, petroleum, solvent-refined heavy paraffinic:

Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects. In long term studies (up to two years) no carcinogenic effects have been reported in any animal species tested. Analyses conducted by method IP 346 indicate that the polycyclic aromatic concentration of this mineral oil is below 3.0 weight percent.

Distillates, petroleum, hydrotreated light naphthenic:

INHALATION (LC50) Acute: 9.6 mg/L (Female Rat).
INHALATION (LC50) Acute: 10.5 mg/L (Male Rat).
ORAL (LD50) Acute: > 5,000 mg/kg (Rat screen level).
DERMAL (LD50) Acute: > 2,000 mg/kg (Rabbit screen level).
DRAIZE EYE Acute: Non-irritating (Rabbit).
DRAIZE DERMAL Acute: Mild skin irritant (Rabbit).
BUEHLER DERMAL Acute: Non-sensitizing (Guinea Pig).
28-Day DERMAL Sub-Chronic: Mild to moderate skin irritant (Rabbit & Rat).

A life-time dermal application of severely hydrotreated light naphthenic oils produced skin masses on mice which correlated with the skin irritation response levels of the test animals. Additional studies attribute these masses to a weak promotional activity. These studies indicate that light naphthenic oils are not mutagenic, tumor initiators nor complete chemical carcinogens. These materials have not been determined to be carcinogenic by IARC, NTP or OSHA.

CITGO Clair® Oil 160

Distillates, petroleum, hydrotreated heavy naphthenic:

Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects.

Metal Working Fluid:

Acute and chronic respiratory responses have been reported in occupational exposures to metal working fluids (MWF). In addition, exposure to MWF mists can aggravate existing respiratory conditions. Chronic effects of overexposure to MWF mists can include sinusitis, persistent cough, asthma, increased respiratory tract secretions and airway constriction.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity	Analysis for ecological effects has not been conducted on this product. However, if spilled, this product and any contaminated soil or water may be harmful to human, animal, and aquatic life. Also, the coating action associated with petroleum and petroleum products can be harmful or fatal to aquatic life and waterfowl.
Environmental Fate	An environmental fate analysis has not been conducted on this specific product. Plants and animals may experience harmful or fatal effects when coated with petroleum-based products. Petroleum-based (mineral) lube oils will normally float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway may be sufficient to cause a fish kill or create an anaerobic environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly, it is the responsibility of the user to determine the proper storage, transportation, treatment and/or disposal methodologies for spent materials and residues at the time of disposition.

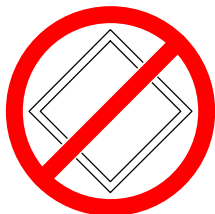
Conditions of use may cause this material to become a "hazardous waste", as defined by federal or state regulations. It is the responsibility of the user to determine if the material is a "hazardous waste" at the time of disposal. Transportation, treatment, storage, and disposal of waste material must be conducted in accordance with RCRA regulations (see 40 CFR 260 through 40 CFR 271). State and/or local regulations may be more restrictive. Contact the RCRA/Superfund Hotline at (800) 424-9346 or your regional US EPA office for guidance concerning case specific disposal issues. Empty drums and pails retain residue. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose this product's empty container to heat, flame, or other ignition sources. DO NOT attempt to clean it. Empty drums and pails should be drained completely, properly bunged or sealed, and promptly sent to a reconditioner.

SECTION 14: TRANSPORT INFORMATION

DOT Status	Not regulated by the U.S. Department of Transportation as a hazardous material.		
Proper Shipping Name	Not regulated.		
Hazard Class	Not regulated.	Packing Group(s)	Not applicable.
		UN/NA ID	Not regulated.
Reportable Quantity	A Reportable Quantity (RQ) has not been established for this material.		

CITGO Clair® Oil 160

Placards



Emergency Response Guide No.

Not applicable.

HAZMAT STCC No.

2911415

MARPOL III Status

Not a DOT "Marine Pollutant" per 49 CFR 171.8.

SECTION 15: REGULATORY INFORMATION

TSCA Inventory	This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.
SARA 302/304	The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to Subparts 302 and 304 to submit emergency planning and notification information based on Threshold Planning Quantities (TPQs) and Reportable Quantities (RQs) for "Extremely Hazardous Substances" listed in 40 CFR 302.4 and 40 CFR 355. No components were identified.
SARA 311/312	The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to this subpart to submit aggregate information on chemicals by "Hazard Category" as defined in 40 CFR 370.2. This material would be classified under the following hazard categories: Acute (Immediate) Health Hazard, Chronic (Delayed) Health Hazard
SARA 313	This product contains the following components in concentrations above de minimis levels that are listed as toxic chemicals in 40 CFR Part 372 pursuant to the requirements of Section 313 of SARA: No components were identified.
CERCLA	The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center concerning release of quantities of "hazardous substances" equal to or greater than the reportable quantities (RQ's) listed in 40 CFR 302.4. As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically designated in 40 CFR 302.4. Chemical substances present in this product or refinery stream that may be subject to this statute are: None identified.
CWA	This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.
California Proposition 65	This material may contain the following components which are known to the State of California to cause cancer, birth defects or other reproductive harm, and may be subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5): Toluene: <0.001%
New Jersey Right-to-Know Label	Petroleum Oil
Additional Regulatory Remarks	No additional regulatory remarks.

SECTION 16: OTHER INFORMATION

Refer to the top of Page 1 for the HMIS and NFPA Hazard Ratings for this product.

REVISION INFORMATION

Version Number	2.0
Revision Date	01/23/2003
Print Date	Printed on 01/23/2003.

ABBREVIATIONS

AP: Approximately EQ: Equal >: Greater Than <: Less Than NA: Not Applicable ND: No Data NE: Not Established
ACGIH: American Conference of Governmental Industrial Hygienists AIHA: American Industrial Hygiene Association

CITGO Clairo® Oil 160

IARC: International Agency for Research on Cancer
NIOSH: National Institute of Occupational Safety and Health
NPCA: National Paint and Coating Manufacturers Association
NFPA: National Fire Protection Association

NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
HMIS: Hazardous Materials Information System
EPA: US Environmental Protection Agency

DISCLAIMER OF LIABILITY

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESSED OR IMPLIED REGARDING ITS CORRECTNESS. SOME INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE SUBSTANCE ITSELF. THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION OR PRODUCTS FOR THEIR PARTICULAR PURPOSE.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE, AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

***** END OF MSDS *****