



# CITCOOL® 33 Concentrate

## Material Safety Data Sheet

CITGO Petroleum Corporation  
P.O. Box 4689  
Houston, TX 77210

MSDS No. 639333001  
Revision Date 5/23/2007

**IMPORTANT:** This MSDS is prepared in accordance with 29 CFR 1910.1200. Read this MSDS before transporting, handling, storing or disposing of this product and forward this information to employees, customers and users of this product.

Hazard Rankings		
	HMIS	NFPA
Health Hazard	* 2	2
Fire Hazard	0	0
Reactivity	0	0

\* = Chronic Health Hazard

Emergency Overview	
Physical State	Liquid.
Color	Green.
Odor	Mild.
<b>CAUTION:</b>	
<b>HARMFUL IF ABSORBED THROUGH SKIN.</b>	
<b>CAUSES EYE IRRITATION.</b>	
Mist or vapor can irritate the respiratory tract.	
Skin irritation can result from prolonged or repeated contact with used metalworking fluids.	
Repeated overexposure may cause liver and kidney damage.	
Spills may create a slipping hazard.	

Protective Equipment
Minimum Recommended See Section 8 for Details


### SECTION 1. PRODUCT IDENTIFICATION

Trade Name	CITCOOL® 33 Concentrate	Technical Contact	(800) 248-4684
Product Number	639333001	Medical Emergency	(832) 486-4700
CAS Number	Mixture.	CHEMTREC Emergency (United States Only)	(800) 424-9300
Product Family	Metalworking fluid		
Synonyms	Metalworking fluid; CITGO® Material Code: 639333001		

### SECTION 2. COMPOSITION

Component Name(s)	CAS Registry No.	Concentration (%)
Triethanolamine	102-71-6	5 - 20
Oxirane, methyl-, polymer with oxirane, monobutyl ester	9038-95-3	5 - 20
Fatty acids, C6-12, compds. with triethanolamine	68188-87-4	5 - 20
2-Amino-2-methyl-1-propanol	124-68-5	<5
Hexahydro-1,3,5-tris(2-hydroxyethyl)-2-triazine compound	4719-04-4	<3
2-(Methylamino)-2 methyl-1-propanol	27646-80-6	<1
Proprietary Ingredients	Proprietary Mixture	<1

### 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.

**Eye Contact**

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This material can cause eye irritation with corneal injury. Liquid material entering the eye can cause clouding of the cornea.

### Skin Contact

Skin Irritant. This material can cause moderate skin irritation with short-term contact based upon data from components or similar materials.

### Ingestion

Depending upon water dilution, may cause mucous membrane irritation or chemical burns to the mouth, throat, and gastrointestinal tract with accompanying nausea, abdominal pain, and/or diarrhea. Based upon rodent feeding studies of Ethanolamines, repeated ingestion may cause liver and/or kidney damage.

### Chronic Health Effects Summary

Repeated overexposure may cause liver and kidney damage. Prolonged or repeated skin contact can cause irritation and inflammation characterized by drying, or cracking skin (dermatitis). In addition, incidents of allergic contact dermatitis have been reported from exposure to some used metal working fluids. Repeated exposure to metalworking fluid mists at concentrations above applicable workplace exposure levels have been associated with respiratory irritation or other pulmonary effects. Exposure to microbial contaminants found in certain used metalworking fluids have been associated with asthma and a lung inflammation condition known as hypersensitivity pneumonitis. Symptoms are similar to pneumonia including headache, cough and chest pain. Repeated occurrences of acute hypersensitivity pneumonitis can result in irreversible lung damage.

### 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

May cause damage to the following organs: kidneys, lungs, liver, upper respiratory tract, skin.

### Carcinogenic Potential

This product is not known to 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	<input checked="" type="checkbox"/>	Sensitizer	<input type="checkbox"/>	Combustible	<input type="checkbox"/>	Explosive	<input type="checkbox"/>
Toxic	<input type="checkbox"/>	Highly Toxic	<input type="checkbox"/>	Flammable	<input type="checkbox"/>	Oxidizer	<input type="checkbox"/>
Corrosive	<input type="checkbox"/>	Carcinogenic	<input type="checkbox"/>	Compressed Gas	<input type="checkbox"/>	Organic Peroxide	<input type="checkbox"/>
						Pyrophoric	<input type="checkbox"/>
						Water-reactive	<input type="checkbox"/>
						Unstable	<input type="checkbox"/>

## 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

Flush eyes with cool, clean, low-pressure water for at least 15 minutes. Hold eyelids apart to ensure complete irrigation of the eye and eyelid tissue. If easily accomplished, check for and remove contact lenses. If contact lenses cannot be removed, seek immediate medical attention. Do not use eye ointment. Seek medical attention.

### 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. Clean or discard contaminated leather goods. If material is injected under the skin, seek medical attention immediately.

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**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** Treat symptomatically.

## SECTION 5. FIRE FIGHTING MEASURES

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**NFPA Flammability Classification** Not applicable.

**Flash Point** Not applicable.

**Lower Flammable Limit** No data. **Upper Flammable Limit** No data.

**Autoignition Temperature** Not available.

**Hazardous Combustion Products** Carbon dioxide, carbon monoxide, smoke, fumes, and/or unburned hydrocarbons.

**Special Properties** This is an aqueous solution. After the water component evaporates, the remaining material will burn.

**Extinguishing Media** Use dry chemical, "alcohol" foam or Carbon Dioxide. Water may be ineffective as an extinguishing medium, but may be used to cool fire-exposed containers. Carbon dioxide and inert gas can displace oxygen. Use caution when applying carbon dioxide or inert gas in confined spaces.

**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

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**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 is miscible in water. Comply with all laws and regulations.

## SECTION 7. HANDLING AND STORAGE

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**Handling** Do not add nitrites or other nitrosating agents. Dilute with water in accordance with prescribed recommendations prior to use. Avoid breathing vapors or spray mists. Avoid contact with eyes, skin or clothing. 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. **FOR INDUSTRIAL USE ONLY**

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**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.

**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 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 butyl rubber or PVC gloves 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 protective clothing 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 clothing before reuse or discard. Wear heat protective boots and protective clothing when handling material at elevated temperatures.

**Respiratory Protection** Airborne concentration will determine the level of respiratory protection required. Respiratory protection is normally not required unless the product is heated or misted. For known or anticipated vapor or mist concentrations above the occupational exposure guidelines (see below), use a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter if adequate protection is provided. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134). For airborne vapor concentrations that exceed the recommended protection factors for organic vapor respirators, use a full-face, positive-pressure, supplied air respirator.

**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 abrasive skin cleaners.

### Occupational Exposure Guidelines

#### Substance

Triethanolamine

Metal Working Fluid, Soluble

#### Applicable Workplace Exposure Levels

**ACGIH (United States).**

TWA: 5 mg/m<sup>3</sup>

**NIOSH (United States).**

TWA: 0.4 mg/m<sup>3</sup> Form: \*Thoracic particulate mass

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES (TYPICAL)**

<b>Physical State</b>	Liquid.	<b>Color</b>	Green.	<b>Odor</b>	Mild.
<b>Specific Gravity</b>	1.07 (Water = 1)	<b>pH</b>	9.5	<b>Vapor Density</b>	>1 (Air = 1)
<b>Boiling Range</b>	100°C (212°F)			<b>Melting/Freezing Point</b>	Not available.
<b>Vapor Pressure</b>	<0.1 kPa (<1 mm Hg) (at 20°C)			<b>Volatility</b>	Not available.
<b>Solubility in Water</b>	Easily soluble in cold water.			<b>Viscosity (cSt @ 40°C)</b>	3.7
<b>Flash Point</b>	Not applicable.				
<b>Additional Properties</b>	Density: 8.9 lbs/gal.				

**SECTION 10. STABILITY AND REACTIVITY**

<b>Chemical Stability</b>	Stable under recommended storage and handling conditions (see section 7).	<b>Hazardous Polymerization</b>	Not expected to occur.
<b>Conditions to Avoid</b>	This material contains one or more amines which can react with nitrites to form nitrosamines. Some nitrosamines have been shown to be carcinogenic in laboratory animals.		
<b>Materials Incompatibility</b>	This material is incompatible with materials that are reactive with hydroxyl compounds, strong oxidizers and acids.		
<b>Hazardous Decomposition Products</b>	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****Triethanolamine**

Triethanolamine can cause mild skin irritation at concentrations above 5%. In dermal studies conducted in B6C3F<sub>1</sub> mice (NTP Report No. IMM90005), no statistically significant group or dose-dependent contact hypersensitivity responses to triethanolamine were observed. Based on animal studies, triethanolamine can be dermally absorbed at concentrations sufficient to produce systemic toxicity. In dermal studies, there was equivocal evidence of carcinogenic activity of triethanolamine in male F344/N rats based on a marginal increase in renal tubule cell adenomas. There was no evidence of carcinogenic activity in female F344/N rats that were administered triethanolamine at concentrations of 63, 125 or 250 mg/kg body weight. Triethanolamine is not mutagenic with and without S-9 activation. NTP, IARC and OSHA have not designated triethanolamine as a carcinogen.

**Oxirane, methyl-, polymer with oxirane, monobutyl ester**

In an acute inhalation studies, rats were exposed to aerosol concentrations of polyalkylene glycols (average MW 2,900) (Klonne et al, 1987). Exposure related mortalities occurred at the two highest exposure concentrations. Also, slightly increased respiratory rates and locomotor activity were noted. The acute inhalation LC<sub>50</sub> was calculated to be 330 mg/M<sup>3</sup>. In another study, exposure related mortalities occurred (DuPont, 1986). The approximate lethal

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concentration (ALC) was determined to be 390 mg/M<sup>3</sup>. Another inhalation study with rats, exposure-related mortalities occurred (Ulrich et al., 1992). Study findings included treatment-related changes in the alveoli and terminal airways including moderate to severe alveolar inflammation.

### 2-Amino-2-methyl-1-propanol

ORAL (LD50): Acute: 2900 mg/kg [Rat]. 2150 mg/kg [Mouse].

### 1,3,5-Triazine-1,3,5(2H,4H,6H)-triethanol

ORAL (LD50): Acute: 535 mg/kg [Rat].  
DERMAL (LD50): Acute: >2000 mg/kg [Rabbit].

### Metalworking Fluid, Soluble

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. Certain studies have suggested that bacterial endotoxin in MWF can result in increased respiratory tract irritation among the exposed population. Endotoxins can stimulate alveolar macrophage release of cytokine mediators that are involved in broncho-constriction and inflammation.

Hypersensitivity pneumonitis (also known as allergic alveolitis) has been reported among automobile workers exposed to MWF. Hypersensitivity pneumonitis is a diffuse interstitial granulomatous lung disease believed to be associated with an immunologic reaction of the lung to repeated inhalation of foreign antigens. In the acute phase, signs and symptoms include alveolar inflammation and influenza-like symptoms. In the chronic phase and following repeated exposures, it is characterized by pulmonary fibrosis. Reoccurring episodes of acute hypersensitivity pneumonitis can lead to progressive, irreversible lung impairment.

## SECTION 12. ECOLOGICAL INFORMATION

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<b>Ecotoxicity</b>	Ecotoxicity data are not available for this product.
<b>Environmental Fate</b>	This product is miscible in water and is expected to readily disperse in marine environments.

## SECTION 13. DISPOSAL CONSIDERATIONS

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**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 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

The shipping description below may not represent requirements for all modes of transportation, shipping methods or locations outside of the United States.

**US DOT Status** Not regulated by the U.S. Department of Transportation as a hazardous material when transported in non-bulk container shipments.

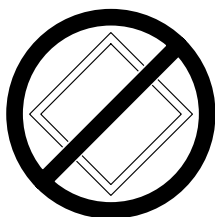
**Proper Shipping Name** Not regulated.

**Hazard Class** Not regulated. **Packing Group(s)** Not applicable.

**UN/NA Number** Not regulated.

**Reportable Quantity** A Reportable Quantity (RQ) has not been established for this material.

**Placard(s)**



**Emergency Response Guide No.** Not applicable.

**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 Emergency Planning and Notification** 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 Hazard Identification** 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 Toxic Chemical Notification and Release Reporting** 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. This product or refinery stream is not known to contain chemical substances subject to this statute. However, it is recommended that you contact state and local authorities to determine if there are any other reporting requirements in the event of a spill.

**Clean Water Act (CWA)** Discharges or spills of this material onto or in waters of the United States, adjoining shorelines, or into conduits leading to surface waters of the US without proper Federal or State permits should be reported to the National Response Center at (800) 424-8802.

**California Proposition 65**

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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):

Propylene oxide: <0.0005%

Ethylene oxide: <0.0005%

1,4-Dioxane: <0.0005%

### New Jersey Right-to-Know Label

For New Jersey R-T-K labeling requirements, refer to components listed in Section 2.

### Additional Remarks

WARNING! Do Not Add Nitrites to This Metalworking Fluid under Penalty of Federal Law. Addition of nitrites leads to the formation of a substance known to cause cancer. This product is designed to be used without nitrites.

## SECTION 16. OTHER INFORMATION

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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 5/23/2007

### 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  
IARC: International Agency for Research on Cancer NTP: National Toxicology Program  
NIOSH: National Institute of Occupational Safety and Health OSHA: Occupational Safety and Health Administration  
NPCA: National Paint and Coating Manufacturers Association HMIS: Hazardous Materials Information System  
NFPA: National Fire Protection Association EPA: US Environmental Protection Agency

### DISCLAIMER OF LIABILITY

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