

# **Material Safety Data Sheet**

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

MSDS No. 661720001

Revision Date 5/2/2006

IMPORTANT: Prepared in accordance with 29 CFR 1910.1200. 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 Black. Odor Petroleum.

Protect eyes from misting or spraying material.

Protect exposed skin from repeated or prolonged exposure.

Do not store material in open or unmarked containers.

Spills may create a slipping hazard.

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

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\* = Chronic Health Hazard

## **Protective Equipment**

Minimum Recommended See Section 8 for Details





## SECTION 1. PRODUCT IDENTIFICATION

Trade Name ROIL Technical Contact (800) 248-4684

Product Number 661720001 Medical Emergency (832) 486-4700

CAS Number Mixture. CHEMTREC Emergency (800) 424-9300

(United States Only)

Product Family Lubricating oil

Synonyms Lubricating oil;

CITGO® Material Code: 661720001

## **SECTION 2. COMPOSITION**

Highly-refined petroleum lubricant oils. (CAS No.: Mixture). Conc. 90 to 100

The concentrations of the individual base oils will vary:

Residual oil, petroleum, solvent refined, (CAS No. 64742-01-4);

Distillates, petroleum, hydrotreated heavy paraffinic, (CAS No. 64742-54-7);

Distillates, petroleum, hydrotreated light paraffinic, (CAS No. 64742-55-8);

Distillates, petroleum, solvent-refined heavy paraffinic, (CAS No. 64741-88-4);

Distillates, petroleum, solvent-refined light paraffinic, (CAS No. 64741-89-5);

Distillates, petroleum, solvent-dewaxed light paraffinic, (CAS No. 64742-56-9);

Distillates, petroleum, hydrotreated heavy naphthenic, (CAS No. 64742-52-5);

Distillates, petroleum, hydrotreated light naphthenic, (CAS No. 64742-53-6);

Distillates, petroleum, solvent-dewaxed heavy paraffinic, (CAS No. 64742-65-0);

Distillates, petroleum, solvent-refined heavy naphthenic, (CAS No. 64741-96-4);

Lubricating oils, petroleum, C15-30, hydrotreated neutral oil-based, containing, solvent deasphalted residual oil, (CAS No. 72623-84-8);

Lubricating oils, petroleum, C20-50, hydrotreated neutral oil-based, high-viscosity, (CAS No. 72623-85-9);

Lubricating oils, petroleum, C15-30, hydrotreated neutral oil-base, (CAS No. 72623-86-0);

Lubricating oils, petroleum, C20-50, hydrotreated neutral oil-based, (CAS No. 72623-87-1);

Component Name(s) CAS Registry No. Concentration (%)

Proprietary Ingredients Mixture <10
Zinc and zinc compounds Mixture <3
Antimony Compounds Mixture <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.

#### Signs and Symptoms of Acute Exposure

**Inhalation** No significant adverse health effects are expected to occur upon short-term exposure.

**Eye Contact**This product can cause transient mild eye irritation with short-term contact with liquid sprays

or mists. Symptoms include stinging, watering, redness, and swelling.

**Skin Contact** This product can cause mild, transient skin irritation with short-term exposure. The severity

of irritation will depend on the amount of material that is applied to the skin and the speed and thoroughness that it is removed. Symptoms include redness, itching, and burning of the skin. Repeated or prolonged skin contact can produce moderate irritation (dermatitis).

**Ingestion** If swallowed, large volumes of material can cause generalized depression, headache,

drowsiness, nausea, vomiting and diarrhea. Smaller doses can cause a laxative effect.

**Chronic Health Effects** 

Summary

This product contains a petroleum-based mineral oil. Prolonged or repeated skin contact can cause mild irritation and inflammation characterized by drying, cracking, (dermatitis) or

oil acne. Repeated or prolonged inhalation of petroleum-based mineral oil mists at concentrations above applicable workplace exposure levels can cause respiratory irritation or

other pulmonary effects.

**Conditions Aggravated** 

by Exposure

Disorders of the following organs or organ systems that may be aggravated by significant

exposure to this material or its components include: Skin

**Target Organs** May cause damage to the following organs: 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 Toxic Corrosive		Sensitizer Highly Toxic Carcinogenic		Combustible Flammable Compressed Gas		Explosive Oxidizer Organic Peroxide		Pyrophoric Water-reactive 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** Vaporization is not expected at ambient temperatures. This material is not expected to cause

inhalation-related disorders under anticipated conditions of use. In case of overexposure,

move the person to fresh air.

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.

Do not induce vomiting unless directed to by a physician. Do not give anything to drink unless Ingestion

> 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 INGESTION: The viscosity range of the product(s) represented by this MSDS is greater than

100 SUS at 100°F. There is a low risk of aspiration upon ingestion Careful gastric lavage or

emesis may be considered to evacuate large quantities of material.

## SECTION 5. FIRE FIGHTING MEASURES

**NFPA Flammability** 

Classification

NFPA Class-IIIB combustible material.

**Flash Point** Open cup: 204°C (400°F) (Cleveland.).

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

**Autoignition** 

**Temperature** 

Not available.

**Products** 

Hazardous Combustion Carbon dioxide, carbon monoxide, smoke, fumes, unburned hydrocarbons and oxides of

sulfur, antimony, phosphorus, zinc and nitrogen.

**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. Water or foam may cause frothing.

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

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 regulations.

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## 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 suplight for extended periods of time. Consult

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 Personal protective e Equipment this material is used.

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 Use gloves constructed of chemical resistant materials such as heavy nitrile rubber if

frequent or prolonged contact is expected. Use heat-protective gloves when handling

product at elevated temperatures.

**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** The need for respiratory protection is not anticipated under normal use conditions and with

adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mict profiltor should be used. Protection factors vary depending upon the type of

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 Applicable Workplace Exposure Levels

Oil Mist, Mineral ACGIH (United States).

TWA: 5 mg/m<sup>3</sup> STEL: 10 mg/m<sup>3</sup> **OSHA (United States).** 

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

Antimony and Antimony Compounds ACGIH (United States).

TWA: 0.5 mg/m<sup>3</sup> **OSHA (United States).**TWA: 0.5 mg/m<sup>3</sup>

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES (TYPICAL)

Physical State Liquid. Color Black. Odor Petroleum.

Specific Gravity 0.89 (Water = 1) pH Not applicable Vapor >1 (Air = 1)

Density

Boiling Range Not available. Melting/Freezing

**Point** 

Not available.

Vapor Pressure <0.1 kPa (<1 mm Hg) (at 20°C) Volatility Negligible volatility.

Solubility in Negligible solubility in cold water. Viscosity 70

Water (cSt @ 40°C)

Flash Point Open cup: 204°C (400°F) (Cleveland.).

Additional Gravity, <sup>o</sup>API (ASTM D287) = 28.0 @ 60° F

**Properties** Density = 7.39 Lbs/gal.

Viscosity (ASTM D2161) = AP 325 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.

Materials Oxidizing materials.

Incompatibility

**Products** 

**Hazardous** No additional hazardous decomposition products were identified other than the combustion

**Decomposition** 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 heavy paraffinic :

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

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 concentration of DMSO extractables in this mineral oil is below 3.0 weight percent.

## Distillates, petroleum, solvent-refined light paraffinic:

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

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 concentration of DMSO extractables in this mineral oil is below 3.0 weight percent.

#### Residual oils, petroleum, solvent-refined:

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

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, hydrotreated light naphthenic:

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

INHALATION (LC50) Acute: 9.6 mg/L (Female Rat). INHALATION (LC50) Acute: 10.5 mg/L (Male Rat). 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.

## Distillates, petroleum, hydrotreated heavy naphthenic:

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

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.

#### Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts:

ORAL (LD50): Acute: >2000 mg/kg [Rabbit]. >2890 mg/kg [Rat].

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

INHALATION (LC50), Acute: > 1310 mg/L (Rat screen level)(4 hours).

DRAIZE EYE, Acute: Moderate to severe eye irritant. (Rabbit). DRAIZE DERMAL, Acute: Mild to moderate skin irritant. (Rabbit). BUEHLER DERMAL, Acute: Non-sensitizing. (Guinea Pig).

28-Day DERMAL, Sub-Chronic: Severe skin irritant. (Rabbit). Reported reduced food

consumption resulting in weight loss and testicular atrophy.

#### Antimony and antimony compounds:

ORAL (LD50): Acute: 16,400 mg/kg (rat)
DERMAL (LD50): Acute: 16,000 mg/kg (rabbit)

DERMAL (Primary Skin Irritation): Mild Irritation (rabbit) EYE (Primary Eye Irritation): Mild Irritation (rabbit)

Salmonella Mutagenicity Assay in the presence and absence of Aroclor - induced rat liver

microsomal enzymes (Ames Test): Negative

In micronucleus cytogenetic assay in mice, dose levels of 1250, 2500 and 5,000 mg/kg did not induce bone marrow toxicity in males or females. No significant increase in micronucleated polychromatic erythrocytes was observed in male mice. Mid and high dose produced an increase in micronucleated polychromatic erythrocytes in female mice. The compound is weakly positive in the mouse micronucleus assay.

# **SECTION 12. ECOLOGICAL INFORMATION**

#### **Ecotoxicity**

Ecotoxicity data are not available for this product.

#### **Environmental Fate**

An environmental fate analysis is not available for this specific product. Plants and animals may experience harmful or fatal effects when coated with petroleum products. Petroleum-based (mineral) lubricating oils normally will 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. This material contains phosphorus which is a controlled element for disposal in effluent waters in most sections of North America. Phosphorus is known to enhance the formation of algae. Severe algae growth can reduce oxygen content in the water possibly below levels necessary to support marine life.

## 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 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.

**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.

MARPOL III Status

Not a DOT "Marine Pollutant" per 49 CFR

171.8.

Not applicable.



# 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:

No SARA 311/312 hazard categories identified.

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:

Zinc and Zinc Compounds, Concentration: <3%

Antimony and Antimony Compounds, Concentration: <2%

**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: Zinc and Zinc Compounds, Concentration: 0 - 3%

Antimony and Antimony Compounds, Concentration: 0 - 2%

**Clean Water Act** 

(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):

Naphthalene: < 0.01% Toluene: <0.01% Ethylbenzene <0.01

**New Jersey** 

Right-to-Know Label

Petroleum Oil

**Additional 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 2.00 Revision Date 5/2/2006

**Print Date** Printed on 5/2/2006.

**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

NPCA: National Paint and Coating Manufacturers Association

OSHA: Occupational Safety and Health Administration

HMIS: Hazardous Materials Information System

NFPA: National Fire Protection Association EPA: US Environmental Protection Agency

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