



Material Safety Data Sheet

Hydrogenated Pyrolysis Gasoline

November 8, 2002
MSDS Number: PE0087
Revision #: 21

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Hydrogenated Pyrolysis Gasoline

COMPANY IDENTIFICATION

Chevron Phillips Chemical Company LP
10001 Six Pines Drive
The Woodlands, TX 77380

EMERGENCY TELEPHONE NUMBERS

HEALTH (24 hr): (800)231-0623 or
(510)231-0623 (International)
TRANSPORTATION (24 hr): CHEMTREC
(800)424-9300 or (703)527-3887
Emergency Information Centers
are located in U.S.A.
Int'l collect calls accepted

PRODUCT INFORMATION: MSDS Requests (Hotline: 1-800-852-5530
Technical Information: 1-800-852-5531

2. COMPOSITION/INFORMATION ON INGREDIENTS

100.0 % Hydrogenated Pyrolysis Gasoline

CONTAINING

COMPONENTS	AMOUNT	LIMIT/QTY	AGENCY/TYPE
HYDROTREATED DISTILLATE, LIGHT Chemical Name: DISTILLATES, PETROLEUM, LIGHT DISTILLATE HYDROTREAT PROCESS CAS68410979	100.00%	NONE	NA

INCLUDING

BENZENE Chemical Name: BENZENE CAS71432	< 70.00%	0.5 ppm 2.5 ppm	ACGIH TWA ACGIH STEL
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1 ppm OSHA PEL
5 ppm OSHA CEILING
10 LBS CERCLA 302.4 RQ

PETROLEUM DISTILLATE
< 33.00%

TOLUENE
Chemical Name: TOLUENE
CAS108883 < 25.00%
50 ppm ACGIH TWA
200 ppm OSHA PEL
300 ppm OSHA CEILING
1,000 LBS CERCLA 302.4 RQ

CYCLOPENTANE
Chemical Name: CYCLOPENTANE
CAS287923 < 15.00%
600 ppm ACGIH TWA

XYLENE
Chemical Name: BENZENE, DIMETHYL-
CAS1330207 < 7.00%
100 ppm ACGIH TWA
150 ppm ACGIH STEL
100 ppm OSHA PEL
100 LBS CERCLA 302.4 RQ

ETHYL BENZENE
Chemical Name: BENZENE, ETHYL-
CAS100414 < 8.10%
100 ppm ACGIH TWA
125 ppm ACGIH STEL
100 ppm OSHA PEL
1,000 LBS CERCLA 302.4 RQ

3-ETHYLTOLUENE
Chemical Name: BENZENE, 1-ETHYL-3-METHYL
CAS620144 < 2.00%
NONE NA

N-HEXANE
Chemical Name: N-HEXANE
CAS110543 < 2.00%
50 ppm ACGIH TWA
500 ppm OSHA PEL
5,000 LBS CERCLA 302.4 RQ

COMPOSITION COMMENT:
Due to possible carcinogenic effect, exposure should be reduced to the lowest feasible level.

3. HAZARDS IDENTIFICATION

***** EMERGENCY OVERVIEW *****

Clear liquid with aromatic odor

- **EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE**

- HARMFUL OR FATAL IF SWALLOWED
- CAN ENTER LUNGS AND CAUSE DAMAGE
- CAUSES SKIN IRRITATION
- MAY CAUSE RESPIRATORY TRACT IRRITATION IF INHALED
- INHALATION MAY CAUSE NERVOUS SYSTEM EFFECTS
- CANCER HAZARD - CAN CAUSE CANCER
- CONTAINS MATERIAL THAT MAY CAUSE DAMAGE TO PERIPHERAL NERVOUS SYSTEM AND INNER EAR
- BIRTH DEFECT HAZARD - CONTAINS MATERIAL THAT MAY CAUSE BIRTH DEFECTS
- TOXIC TO AQUATIC ORGANISMS

IMMEDIATE HEALTH EFFECTS

EYE:

Not expected to cause prolonged or significant eye irritation.

SKIN:

Contact with the skin causes irritation. Skin contact may cause drying or defatting of the skin. Contact with the skin is not expected to cause an allergic skin response.

INGESTION:

May be harmful if swallowed. Also, because of its low viscosity, this material can directly enter the lungs if swallowed or subsequently vomited. Once in the lungs, it is very difficult to remove and can cause severe injury or death.

INHALATION:

The vapor or fumes from this material may cause respiratory irritation. Breathing this material at concentrations above the recommended exposure limit may cause central nervous system effects.

TARGET ORGANS:

Contains material that may cause damage to the following organ(s) following repeated ingestion, skin contact, or inhalation at concentrations above the recommended exposure limit: <Peripheral Nervous System> Contains material that may cause damage to the following organ(s) following repeated inhalation at concentrations above the recommended exposure limit: >Inner Ear< Risk depends on duration and level of exposure. See Section 11 for additional information.

REPRODUCTION AND BIRTH DEFECTS:

Contains material that may cause birth defects if inhaled above the recommended exposure limits. Risk depends on duration and level of exposure. See Section 11 for additional information.

CARCINOGENICITY:

Contains material which appears on the following agency lists: <NTP> <IARC> <OSHA> Prolonged or repeated exposure to this material may cause cancer. Risk of cancer depends on duration and level of exposure. See Section 11 for additional information.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin irritation: may include pain, reddening, swelling, and blistering.
 Skin defatting: may include drying and reddening of the skin. Respiratory irritation: may include coughing and difficulty breathing. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death. Peripheral nervous system injury: may include weakness and/or numbness in the arms and/or legs.

4. FIRST AID MEASURES

EYE:

No specific first aid measures are required because this material is not expected to cause eye irritation. As a precaution remove contact lenses, if worn, and flush eyes with water.

SKIN:

Wash skin immediately with soap and water and remove contaminated clothing and shoes. Get medical attention if irritation persists. Discard contaminated clothing and shoes or thoroughly clean before reuse.

INGESTION:

If swallowed, do not induce vomiting. Give the person a glass of water or milk to drink and get immediate medical attention. Never give anything by mouth to an unconscious person.

INHALATION:

Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms continue.

NOTE TO PHYSICIANS:

Ingestion of this product or subsequent vomiting may result in aspiration of light hydrocarbon liquid, which may cause pneumonitis.

5. FIRE FIGHTING MEASURES

FIRE CLASSIFICATION:

Classification (29 CFR 1910.1200): Flammable liquid.

FLAMMABLE PROPERTIES:

FLASH POINT: (PM) <20F (<-6.7C)

AUTOIGNITION: 950F (510C) (estimate)

FLAMMABILITY LIMITS (% by volume in air): Lower: 1.2 Upper: 7.4

EXTINGUISHING MEDIA:

CO₂, dry chemical, foam and water fog.

NFPA RATINGS: Health 2; Flammability 3; Reactivity 0.

FIRE FIGHTING INSTRUCTIONS:

For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

See section 7 for appropriate handling and storage conditions.

COMBUSTION PRODUCTS:

Normal combustion forms carbon dioxide and water vapor; incomplete combustion can produce carbon monoxide.

6. ACCIDENTAL RELEASE MEASURES

CHEMTREC EMERGENCY NUMBER (24 hr): (800)424-9300 or (703)527-3887

International Collect Calls Accepted

ACCIDENTAL RELEASE MEASURES:

Eliminate all sources of ignition in the vicinity of the spill or released

vapor.

Stop the source of the leak or release. Clean up releases as soon as possible, observing precautions in Exposure Controls/Personal Protection. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases.

Release of this product should be prevented from contaminating soil and water and from entering drainage and sewer systems. U.S.A. regulations require reporting spills of this material that could reach any surface waters. The toll free number for the U.S. Coast Guard National Response Center is (800) 424-8802.

7. HANDLING AND STORAGE

Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe vapor or fumes. Wash thoroughly after handling.

This product presents an extreme fire hazard. Liquid very quickly evaporates, even at low temperatures, and forms vapor (fumes) which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches.

Do not use or store near heat, sparks, or open flames. Use or store only in a well-ventilated area. Keep container closed when material is not in use. Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner, or properly disposed of.

Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating an accumulation of electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, "Flammable and Combustible Liquids", National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity", and/or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents".

Avoid work practices that may release volatile components into the atmosphere. Local air pollution regulations should be consulted to determine if the release of volatile components is regulated or restricted

in the area in which this material is used.

Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION:

No eye protection is normally required.

SKIN PROTECTION:

Wear protective clothing if engineering controls or work practices are not adequate to prevent skin contact. Selection of protective clothing may include gloves, apron, boots, and complete facial protection depending on operations conducted. Suggested materials for protective gloves include:
<4H> <Viton> <Teflon> <Silver Shield>

RESPIRATORY PROTECTION:

Refer to the OSHA Benzene Standard to determine what type of respirator is required based on exposure levels.

Determine if airborne concentrations are below the recommended exposure limits. If not, wear a NIOSH approved respirator that provides adequate protection from measured concentrations of this material. Use the following respirators: Supplied Air.

Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DESCRIPTION:

Clear liquid with aromatic odor

pH: NA

VAPOR PRESSURE: 3.3 PSI

VAPOR DENSITY

(AIR=1): 2.9
BOILING POINT: 120F (49C)
FREEZING POINT: <0F (<17C)
MELTING POINT: <0F (<17C)
SOLUBILITY: Negligible in water.
SPECIFIC GRAVITY: 0.81
VISCOSITY: 0.5 cSt @ 37.8C
PERCENT VOLATILE
(VOL): 100%

10. STABILITY AND REACTIVITY

HAZARDOUS DECOMPOSITION PRODUCTS:

Carbon monoxide

CHEMICAL STABILITY:

Stable.

CONDITIONS TO AVOID:

No data available.

INCOMPATIBILITY WITH OTHER MATERIALS:

May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

HAZARDOUS POLYMERIZATION:

Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS:

The mean 24-hour Draize eye irritation score in rabbits is 0.

SKIN EFFECTS:

For a 24-hour exposure, the Primary Irritation Score (PIS) in rabbits is: 5.1. This material did not cause skin sensitization reactions in a Buehler guinea pig test.

ACUTE ORAL EFFECTS:

The acute oral LD50 in rats is 5.17 g/kg. The aspiration hazard is based on the viscosity of this material (see data in Section 9 Physical and Chemical Properties).

ACUTE INHALATION EFFECTS:

The 4-hour inhalation LC50 in rats is >12,408 ppm. The respiratory irritation hazard is based on an evaluation of the data for the components.

SUBCHRONIC EFFECTS:

Results of a 5-day inhalation toxicity study showed that inhalation of 9,137 ppm Hydrogenated Pyrolysis Gasoline in air for six hours a day caused decreased body weight, lethargy, twitching and death but no observable gross pathological effects in surviving rats.

GENETIC TOXICITY:

This product gave positive results in the following mutagenicity assays: <Cell Transformation in BALB/c-3T3 Cells Assay> This product gave negative results in the following mutagenicity assays: <Mouse Bone Marrow Micronucleus Test> <Salmonella-Escherichia coli/Microsome Plate Incorporation Assay> <In Vitro Unscheduled DNA Synthesis (UDS) in Rat Primary Hepatocytes Assay>

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains benzene. **GENETIC TOXICITY/CANCER:** Repeated or prolonged breathing of benzene vapor has been associated with the development of chromosomal damage in experimental animals and various blood diseases in humans ranging from aplastic anemia to leukemia (a form of cancer). All of these diseases can be fatal. In some individuals, benzene exposure can sensitize cardiac tissue to epinephrine which may precipitate fatal ventricular fibrillation. **REPRODUCTIVE/DEVELOPMENTAL TOXICITY:** No birth defects have been shown to occur in pregnant laboratory animals exposed to doses not toxic to the mother. However, some evidence of fetal toxicity such as delayed physical development has been seen at such levels. The available information on the effects of benzene on human pregnancies is inadequate but it has been established that benzene can cross the human placenta. **OCCUPATIONAL:** The OSHA Benzene Standard (29 CFR 1910.1028) contains detailed requirements for training, exposure monitoring, respiratory protection and medical surveillance triggered by the exposure level. Refer to the OSHA Standard before using this product.

This product contains toluene. **GENERAL TOXICITY:** The primary effects of exposure to toluene in animals and humans are on the central nervous system. Solvent abusers, who typically inhale high concentrations (thousands of ppm) for brief periods of time, in addition to experiencing respiratory tract irritation, often suffer permanent central nervous system effects that include tremors, staggered gait, impaired speech, hearing and vision loss, and changes in brain tissue. Death in some solvent abusers has been attributed to cardiac arrhythmias, which appear to be have been triggered by epinephrine acting on solvent sensitized cardiac tissue. Although liver and kidney effects have been seen in some solvent abusers, results of animal testing with toluene do not support these as primary target organs. **HEARING:** Humans who were occupationally exposed to concentrations of toluene as low as 100 ppm for long periods of time have experienced hearing deficits. Hearing loss, as demonstrated using behavioral and electrophysiological testing as well as by observation of structural damage to cochlear hair cells, occurred in experimental animals exposed to toluene. It also appears that toluene exposure and noise may interact to produce hearing deficits. **COLOR VISION:** In a single study of workers exposed to toluene at levels under 50 ppm, small decreases in the ability to discriminate colors in the blue-yellow range have been reported for female workers. This effect, which should be investigated further, is very subtle and would not likely have been noticed by the people tested. **REPRODUCTIVE/DEVELOPMENTAL TOXICITY:** Toluene may also cause mental and/or growth retardation in the children of female solvent abusers who directly inhale toluene (usually at thousands of ppm) when they are pregnant. Toluene caused growth retardation in rats and rabbits when administered at doses that were toxic to the mothers. In rats, concentrations of up to 5000 ppm did not cause birth defects. No effects were observed in the offspring at doses that did not intoxicate the pregnant animals. The exposure level at which no effects were seen (No Observed Effect Level, NOEL) is 750 ppm in the rat and 500 ppm in the rabbit.

This product contains xylene. **ACUTE TOXICITY:** The primary effects of exposure to xylene in animals and humans are on the central nervous system. In addition, in some individuals, xylene exposure can sensitize cardiac tissue to epinephrine which may precipitate fatal ventricular fibrillation. **DEVELOPMENTAL TOXICITY:** Xylene has been reported to cause developmental toxicity in rats and mice exposed by inhalation during

pregnancy. The effects noted consisted of delayed development and minor skeletal variations. In addition, when pregnant mice were exposed by ingestion to a level that killed nearly one-third of the test group, lethality (resorptions) and malformations (primarily cleft palate) occurred. Malformations have not been reported following inhalation exposure. Because of the very high levels of exposure used in these studies, we do not believe that their results imply an increased risk of reproductive toxicity to workers exposed to xylene levels at or below the exposure standard. GENETIC TOXICITY/CARCINOGENICITY: Xylene was not genotoxic in several mutagenicity testing assays including the Ames test. In a cancer study sponsored by the National Toxicology Program (NTP), technical grade xylene gave no evidence of carcinogenicity in rats or mice dosed daily for two years. HEARING: Mixed xylenes have been shown to cause measurable hearing loss in rats exposed to 800 ppm in the air for 14 hours per day for six weeks. Exposure to 1450 ppm xylene for 8 hours caused hearing loss while exposure to 1700 ppm for 4 hours did not. Although no information is available for lower concentrations, other chemicals that cause hearing loss in rats at relatively high concentrations do not cause hearing loss in rats at low concentrations. Worker exposure to xylenes at the permissible exposure limit (100 ppm, time-weighted average) is not expected to cause hearing loss.

This product contains ethylbenzene. BIRTH DEFECTS AND REPRODUCTION: Ethylbenzene is not expected to cause birth defects or other developmental effects based on well-conducted studies in rabbits and rats sponsored by NIOSH. Other studies in rats and mice which reported urinary tract malformations have many deficiencies and have limited usefulness in evaluating human risk. Reproductive effects are not expected based on a NIOSH study of fertility, and lack of effects observed for sperm counts and motility, estrous cycle and pathology of reproductive organs following repeated exposures. HEARING: Ethylbenzene caused probable hearing loss in rats exposed to 800 ppm for 8 hr/day for 5 days. There is no evidence of hearing loss in people. GENETIC TOXICITY: Ethylbenzene tested negative in the bacterial mutation test and Chinese Hamster Ovary (CHO) cell in vitro assay, and in the micronucleus assay in mice. The mouse lymphoma cell assay was positive only at the highest non-lethal concentration tested. Based on these results, ethylbenzene is not expected to be mutagenic or clastogenic. CARCINOGENICITY: In studies conducted by the National Toxicology Program, rats and mice were exposed to ethylbenzene at 25, 250 and 750 ppm for six hours per day, five days per week for 103 weeks. In rats exposed to 750 ppm, the incidence of kidney tubule hyperplasia and tumors was increased. Testicular tumors develop spontaneously in nearly all rats if allowed to complete their natural life span; in this study, the development of these tumors appeared to be enhanced in male rats exposed to 750 ppm. In mice, the incidences of lung tumors in males and liver tumors in females exposed to 750 ppm were increased as compared to control mice but were within the range of incidences observed historically in control mice. Other liver effects were observed in male mice exposed to 250 and 750 ppm. The incidences of hyperplasia were increased in the pituitary gland in female mice at 250 and 750 ppm and in the thyroid in male and female mice at 750 ppm.

This product contains n-hexane. TARGET ORGAN TOXICITY: Prolonged or repeated ingestion, skin contact or breathing of vapors of n-hexane has been shown to cause peripheral neuropathy. Recovery ranges from no recovery to complete recovery depending upon the severity of the nerve

damage. Exposure to 1000 ppm n-hexane for 18 hr/day for 61 days has been shown to cause testicular damage in rats. However, when rats were exposed to higher concentrations for shorter daily periods (10,000 ppm for 6 h/day, 5 days/wk for 13 weeks), no testicular lesions were seen.

CARCINOGENICITY: Chronic exposure to commercial hexane (52% n-hexane) at a concentration of 9000ppm was not carcinogenic to rats or to male mice, but did result in an increased incidence of liver tumors in female mice. No carcinogenic effects were observed in female mice exposed to 900 or 3000 ppm hexane or in male mice. The relevance for humans of these hexane-induced mouse liver tumors is questionable. GENETIC TOXICITY: n-Hexane caused chromosome aberrations in bone marrow of rats, but was negative in the AMES and mouse lymphoma tests.

12. ECOLOGICAL INFORMATION

ECOTOXICITY:

This material is expected to be toxic to aquatic organisms. The 96-hour LC50 for rainbow trout (*Oncorhynchus mykiss*) is 170 mg/l. The 48-hour EC50 for daphnia (*Daphnia magna*) is 3.2 mg/l. The 96-hour EC50 for green algae (*Selenastrum capricornutum*) is > 1000 mg/l.

ENVIRONMENTAL FATE:

This material is considered ultimately, but not readily, biodegradable. The environmental fate evaluation is based on data for the components.

13. DISPOSAL CONSIDERATIONS

Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

14. TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT SHIPPING NAME: GASOLINE
DOT HAZARD CLASS: 3 (FLAMMABLE LIQUID)
DOT IDENTIFICATION NUMBER: UN1203
DOT PACKING GROUP: II

15. REGULATORY INFORMATION

SARA 311 CATEGORIES: 1. Immediate (Acute) Health Effects: YES
 2. Delayed (Chronic) Health Effects: YES

3. Fire Hazard: YES
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

01=SARA 313	11=NJ RTK	22=TSCA Sect 5(a) (2)
02=MASS RTK	12=CERCLA 302.4	23=TSCA Sect 6
03=NTP Carcinogen	13=MN RTK	24=TSCA Sect 12(b)
04=CA Prop 65-Carcin	14=ACGIH TWA	25=TSCA Sect 8(a)
05=CA Prop 65-Repro Tox	15=ACGIH STEL	26=TSCA Sect 8(d)
06=IARC Group 1	16=ACGIH Calc TLV	27=TSCA Sect 4(a)
07=IARC Group 2A	17=OSHA PEL	28=Canadian WHMIS
08=IARC Group 2B	18=DOT Marine Pollutant	29=OSHA CEILING
09=SARA 302/304	19=Chevron TWA	30=Chevron STEL
10=PA RTK	20=EPA Carcinogen	

The following components of this material are found on the regulatory lists indicated.

BENZENE, ETHYL-

is found on lists: 01,02,08,10,11,12,13,14,15,17,26,28,

TOLUENE

is found on lists: 01,02,05,10,11,12,13,14,17,26,28,29,

N-HEXANE

is found on lists: 01,02,10,11,12,13,14,17,27,28,

BENZENE, DIMETHYL-

is found on lists: 01,02,10,11,12,13,14,15,17,

CYCLOPENTANE

is found on lists: 02,10,11,13,14,26,28,

BENZENE, 1-ETHYL-3-METHYL

is found on lists: 24,27,

BENZENE

is found on lists: 01,02,03,04,06,10,11,12,13,14,15,17,20,28,29,

WHMIS CLASSIFICATION:

Class B, Division 2: Flammable Liquids

Class D, Division 2, Subdivision A: Very Toxic Material

-Carcinogenicity

-Reproductive Toxicity

Class D, Division 2, Subdivision B: Toxic Material

-Skin or Eye Irritation

16. OTHER INFORMATION

NFPA RATINGS: Health 2; Flammability 3; Reactivity 0;

HMIS RATINGS: Health 2*; Flammability 3; Reactivity 0;

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT:

This revision updates Section 1.

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	TPQ - Threshold Planning Quantity
RQ - Reportable Quantity	PEL - Permissible Exposure Limit
C - Ceiling Limit	CAS - Chemical Abstract Service Number
A1-5 - Appendix A Categories	() - Change Has Been Proposed
NDA - No Data Available	NA - Not Applicable

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the Toxicology and Health Risk Assessment Unit, CRTIC, P.O. Box 1627, Richmond, CA 94804

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modification of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

THIS IS THE LAST PAGE OF THIS MSDS
