NOCO Material Safety Data Sheet

REGULAR UNLEADED GASOLINE

Section 1 Chemical Product and Company Information

SUPPLIER'S NAME	NOCO ENERGY CORP
SUPPLIER'S ADDRESS	700 Grand Island Blvd., Tonawanda, NY 14150
SUPPLIER NUMBER	1-800-500-6626
SUPPLIER IDENTIFIER	Conventional Gasoline
EMERGENCY PHONE NUMBER	1-800-424-9300 Chemtrec
SYNONYM	87 Octane, 89 Octane, 93 Octane
PRODUCT USE	Motor Fuel

Section 2 Composition/Information on Ingredients

Component	CAS No.	Amount (Vol%)
LIGHT PETROLEUM DISTILLATE	8006-61-9	0 - 99.9
TOLUENE	108-88-3	0 - 30
XYLENE	1330-20-7	0 - 25
CYCLOHEXANE	110-82-7	0 - 9
ETHYL BENZENE	100-41-4	0 - 5
N-HEXANE	110-54-3	0 - 5
NAPHTHALENE	91-20-3	0 - 5
1,2,4-TRIMETHYLBENZENE	95-63-6	0 - 5
BENZENE	71-43-2	0.1 - 4.9
CUMENE	98-82-8	0 - 1

EXPOSURE GUIDELINES

	CAS No.	Governing Body	Exposure Limits		
BENZENE	71-43-2	ACGIH	STEL	2.5	ppm
BENZENE	71-43-2	OSHA	STEL	5	ppm
BENZENE	71-43-2	ACGIH	TWA	0.5	ppm
BENZENE	71-43-2	OSHA	TWA	1	ppm
CUMENE	98-82-8	ACGIH	TWA	50	ppm
CUMENE	98-82-8	OSHA	TWA	50	ppm
CYCLOHEXANE	110-82-7	ACGIH	TWA	100	ppm
CYCLOHEXANE	110-82-7	OSHA	TWA	300	ppm
ETHYL BENZENE	100-41-4	ACGIH	STEL	125	ppm
ETHYL BENZENE	100-41-4	ACGIH	TWA	100	ppm
ETHYL BENZENE	100-41-4	OSHA	TWA	100	ppm
N-HEXANE	110-54-3	ACGIH	TWA	50	ppm
N-HEXANE	110-54-3	OSHA	TWA	500	ppm
NAPHTHALENE	91-20-3	ACGIH	STEL	15	ppm
NAPHTHALENE	91-20-3	ACGIH	TWA	10	ppm
NAPHTHALENE	91-20-3	OSHA	TWA	10	ppm
TOLUENE	108-88-3	OSHA	C	300	ppm
TOLUENE	108-88-3	NIOSH	STEL	150	ppm
TOLUENE	108-88-3	ACGIH	TWA	50	ppm
TOLUENE	108-88-3	OSHA	TWA	200	ppm
XYLENE	1330-20-7	ACGIH	STEL	150	ppm
XYLENE	1330-20-7	ACGIH	TWA	100	ppm
XYLENE	1330-20-7	OSHA	TWA	100	ppm
LIGHT PETROLEUM DISTILLATE	8006-61-9	ACGIH	STEL	500	ppm
LIGHT PETROLEUM DISTILLATE	8006-61-9	ACGIH	TWA	300	ppm

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Section 3 Fire and Explosion Hazard of Product

CONDITIONS OF FLAMMABILITY	Danger! Extremely flammable liquid! Vapors may explode!
MEANS OF EXTINCTION	Use dry chemical, foam or carbon dioxide to extinguish fire. Use water spray to disperse gas or vapor and to protect personnel attempting to stop a leak. Use water to flush spills away from sources of ignition. Do not flush down public sewers.
FLASHPOINT & METHOD OF DETERMINATION	-37.00°C (-35°F) TCC
UPPER EXPLOSION LIMIT (% BY VOL.)	7.6
LOWER EXPLOSION LIMIT (% BY VOL.)	1.4
AUTO-IGNITION TEMPERATURE	444.00°C (833°F)
HAZARDOUS COMBUSTION PRODUCTS	Smoke or combustion.
EXPLOSION DATA	Irritating or toxic substances may be emitted upon thermal decomposition. Dangerous when exposed to heat or explosion hazard. Runoff to sewer may cause fire or explosion. Containers may explode in heat of fire.
SENSITIVITY TO STATIC DISCHARGE	N/A.

Hazards Ratings:

Key: 0 = least, 1 = slight, 2 = moderate, 3 = high, 4 = extreme

	Health	Fire	Reactivity	PPI
NFPA	1	3	0	
HMIS	2	3	0	X

Section 4 First Aid Measures

SPECIFIC FIRST AID PROCEDURES

SKIN CONTACT	Remove contaminated clothing immediately. Wash area of contact thoroughly with soap and water. Get medical attention if irritation persists. High pressure injections are serious medical emergencies. Get immediate medical attention.
INGESTION	DO NOT INDUCE VOMITING BECAUSE OF DANGER OF ASPIRATING LIQUID INTO LUNGS. Get immediate medical attention. If spontaneous vomiting occurs, monitor for breathing difficulty.
INHALATION	Remove affected person from source of exposure. If not breathing ensure open airway and institute CPR. If breathing is difficult, administer oxygen if available. Get medical attention.
EYE CONTACT	Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from eyeball to ensure thorough rinsing. Get medical attention if irritation persists.

Section 5 Fire Fighting Measures

- **EXTINGUISHING MEDIA**
  The following media may be used to extinguish a fire involving this material: Water spray; Regular foam; Dry chemical; Carbon dioxide;
- **FIRE FIGHTING INSTRUCTIONS**
  Use water spray to cool fire exposed tanks and containers. Wear structural fire fighting gear. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 5 Fire Fighting Measures (continued)

FLAMMABLE PROPERTIES

	Typical	Minimum	Maximum	Text Result	Units	Method
Flash Point				-40 ESTIMATED	F	N/A
Autoignition Temperature				750 ESTIMATED	F	N/A
Lower Explosion Limit	1.5				%	N/A
Upper Explosion Limit	7.6				%	N/A

Section 6 Accidental Release Measures

ACTIVATE FACILITY SPILL CONTINGENCY or EMERGENCY PLAN

Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction: stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater. Professional assistance may be necessary to determine the extent of subsurface impact.

Carefully contain and stop the source of the spill, if it is safe to do so. Protect bodies of water by diking, absorbents or absorbent boom. Do not flush down sewer or drainage system. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or area/equipment that require protection.

Take up with sand or other absorbent materials. Carefully shovel or sweep up into a waste container for reclamation or disposal -- use caution because flammable vapors may accumulate in closed containers.

Response and clean-up crews must be properly trained and must utilize proper protective equipment (see section 8)

Section 7 Handling and Storage

- **HANDLING**
  Use only in a well-ventilated area. Ground and bond containers when transferring material. NFPA class IA storage. Flash point is less than 73 degrees F and boiling point is less than 100 degrees F. Avoid breathing (dust, vapor, mist, gas). Avoid prolonged or repeated contact with skin. Avoid contact with eyes. Wash thoroughly after handling. Never siphon by mouth.
- **STORAGE**
  Keep away from heat, sparks, and flame. Keep container closed when not in use. Consult NFPA and / or OSHA codes for additional information.

Section 8 Exposure Controls and Personal Protection

Consult With a Health and Safety Professional for Specific Selections

- **ENGINEERING CONTROLS**
  Use with adequate ventilation. Use explosion-proof ventilation equipment.
- **PERSONAL PROTECTION**
  - **EYE PROTECTION**
    Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent).

Section 8 Exposure Controls and Personal Protection (continued)

- **GLOVES or HAND PROTECTION**
  The glove(s) listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection. Protective gloves are recommended to protect against contact with product. Polyethylene; Neoprene; Nitrile; Polyvinyl alcohol; Viton;
- **RESPIRATORY PROTECTION**
  Concentration in air determines the level of respiratory protection needed. Use only NIOSH certified respiratory equipment. Half-mask air purifying respirator with organic vapor cartridges is acceptable for exposures to ten (10) times the exposure limit. Full-face air purifying respirator with organic vapor cartridges is acceptable for exposures to fifty (50) times the exposure limit. Exposure should not exceed the cartridge limit of 1000 ppm. Protection by air purifying respirators is limited. Use a positive pressure-demand full-face supplied air respirator or SCBA for exposures greater than fifty (50) times the exposure limit. If exposure is above the IDLH (Immediately Dangerous to Life and Health) or there is the possibility of an uncontrolled release, or exposure levels are unknown, then use a positive pressure-demand full-face supplied air respirator with escape bottle or SCBA. Wear a NIOSH-approved (or equivalent) full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.
- **OTHER**
  Where splashing is possible, full chemically resistant protective clothing (e.g., acid suit) and boots are required. The following materials are acceptable for use as protective clothing: Polyvinyl alcohol (PVA); Polyethylene; Neoprene; Nitrile; Viton; Polyurethane; Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Remove contaminated clothing and wash before reuse. For non-fire emergencies, positive pressure SCBA and structural firefighter's protective clothing will provide only limited protection.

Section 9 Physical /Chemical Properties

PHYSICAL STATE	Not determined
ODOUR AND APPEARANCE	Clear liquid with a strong hydrocarbon odor
ODOUR THRESHOLD	Not Determined
SPECIFIC GRAVITY	0.72 - 0.74 @ 60°F
VAPOUR PRESSURE	760.00 MM HG @ 100°F
VAPOUR DENSITY (air=1)	1.2 as Vapor
EVAPORATION RATE	(Water = 1); >1
BOILING POINT	13.0°C (55°F)
FREEZING POINT	Not determined
pH	Not determined
COEFFICIENT OF WATER/OIL DISTRIBUTION	Negligible
% VOLATILE	100 % by weight

Section 10 Stability and Reactivity Data

CHEMICAL STABILITY	Stable
INCOMPATIBLE MATERIALS	Avoid contact with strong oxidizers.
CONDITIONS TO AVOID	Avoid heat, sparks, and open flame
CONDITIONS OF REACTIVITY	Stable under normal conditions.
HAZARDOUS DECOMPOSITION PRODUCTS	Combustion may produce CO, CO^2 and reactive hydrocarbons

Section 11 Toxicological Information

- **POTENTIAL HEALTH EFFECTS**

  - **PRE-EXISTING MEDICAL CONDITIONS**
    The following diseases or disorders may be aggravated by exposure to this product: Skin; Eye; Blood forming organs; Nervous system, Respiratory system; Lung (asthma-like conditions); Cardiovascular system,

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Section 11 Toxicological Information (continued)

- **INHALATION**
  High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis and loss of consciousness and even death). Excessive exposure to mists or vapors generated by heat may cause irritation to eyes, nose, throat, lungs and respiratory tract. Repeated excessive exposures may cause blood disorders such as anemia and leukemia. Contains a material that has been related to cancer in humans.

  LC50 (mg/l): no data
  LC50 (mg/m3): no data
  LC50 (ppm): no data

- **SKIN**
  Moderately irritating to the skin. Skin absorption of material may produce systemic toxicity. Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

  Draize Skin Score: 4.8 Out of 8.0
  LD50 (mg/kg): no data

- **EYES**
  Moderately irritating to the eyes
- **INGESTION**
  Product may be harmful or fatal if swallowed. Pulmonary aspiration hazard. After ingestion, may enter lungs and produce damage. Irritating to mouth, throat, and stomach.

  LD50 (g/kg): no data

Section 12 Ecological Information

Keep out of sewers, drainage areas, and waterways. Report spills and releases under Federal and State regulations.

Section 13 Disposal Considerations

This substance, when discarded or disposed of, is not specifically listed as a hazardous waste in Federal regulations; however it could be hazardous if it is considered toxic, corrosive, ignitable, or reactive according to Federal definitions.

Section 14 Transportation Information

SPECIAL SHIPPING INFORMATION.....	Ground lines and equipment used during transfer to reduce the possibility of static soaked-initiated fire or explosion
HAZARD CLASS.....	3, flammable liquid
DOT SHIPPING NAME.....	Gasoline
DOT IDENTIFICATION NUMBER.....	UN 1203
PACKING GROUP.....	PG II

Section 15 Regulatory Information

US FEDERAL, STATE, and LOCAL REGULATORY INFORMATION
This product and it's constituents listed herein are on the EPA TSCA Inventory. Any spill or uncontrolled release of this product, including any substantial threat of release, may be subject to federal, state and or local reporting requirements. This product and/or it's constituents may also be subject to other federal, state, or local regulations. Consult the regulations applicable to your facility/operation.

CLEAN WATER ACT (OIL SPILLS)
Any spill or release of this product to navigable waters or adjoining shorelines sufficient to cause any visible sheen or deposit of a sludge or emulsion must be reported immediately to the National Resource Center (1-800-424-8802) or, if not practical, the U.S.

Section 15 Regulatory Information (continued)

Coast Guard with follow-up to the National Response Center as required by U.S. Federal Law. Also contact appropriate state and local regulatory agencies as required.

CERCLA SECTON 103 and SARA SECTION 304 (RELEASE TO THE ENVIRONMENT)
The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts crude oil, refined, and unrefined petroleum products and any indigenous components of such. However, other federal reporting requirements (e.g. SARA Section 304 as well as the Clean Water Act, if the spill occurs on navigable waters) may still apply.

SARA SECTION 311/312 – HAZARD CLASSES

ACUTE HEALTH	CHRONIC HEALTH	FIRE	SUDDEN RELEASE OF PRESSURE	REACTIVE
X	X	X	---	---

Regulatory List	Component	CAS No.
ACGIH - Occupational Exposure Limits - Carcinogens	BENZENE	71-43-2
ACGIH - Occupational Exposure Limits - Carcinogens	ETHYL BENZENE	100-41-4
ACGIH - Occupational Exposure Limits - Carcinogens	NAPHTHALENE	91-20-3
ACGIH - Occupational Exposure Limits - Carcinogens	TOLUENE	108-88-3
ACGIH - Occupational Exposure Limits - Carcinogens	XYLENE	1330-20-7
ACGIH - Occupational Exposure Limits - TWAs	BENZENE	71-43-2
ACGIH - Occupational Exposure Limits - TWAs	CUMENE	98-82-8
ACGIH - Occupational Exposure Limits - TWAs	CYCLOHEXANE	110-82-7
ACGIH - Occupational Exposure Limits - TWAs	ETHYL BENZENE	100-41-4
ACGIH - Occupational Exposure Limits - TWAs	N-HEXANE	110-54-3
ACGIH - Occupational Exposure Limits - TWAs	NAPHTHALENE	91-20-3
ACGIH - Occupational Exposure Limits - TWAs	TOLUENE	108-88-3
ACGIH - Occupational Exposure Limits - TWAs	XYLENE	1330-20-7
ACGIH - Short Term Exposure Limits	BENZENE	71-43-2
ACGIH - Short Term Exposure Limits	ETHYL BENZENE	100-41-4
ACGIH - Short Term Exposure Limits	LIGHT PETROLEUM DISTILLATE	8006-61-9
ACGIH - Short Term Exposure Limits	NAPHTHALENE	91-20-3
ACGIH - Short Term Exposure Limits	XYLENE	1330-20-7
ACGIH - Skin Absorption Designation	BENZENE	71-43-2
ACGIH - Skin Absorption Designation	N-HEXANE	110-54-3
ACGIH - Skin Absorption Designation	NAPHTHALENE	91-20-3
ACGIH - Skin Absorption Designation	TOLUENE	108-88-3
CAA (Clean Air Act) - HON Rule - Organic HAPs	BENZENE	71-43-2
CAA (Clean Air Act) - HON Rule - Organic HAPs	CUMENE	98-82-8
CAA (Clean Air Act) - HON Rule - Organic HAPs	ETHYL BENZENE	100-41-4
CAA (Clean Air Act) - HON Rule - Organic HAPs	N-HEXANE	110-54-3
CAA (Clean Air Act) - HON Rule - Organic HAPs	NAPHTHALENE	91-20-3
CAA (Clean Air Act) - HON Rule - Organic HAPs	TOLUENE	108-88-3
CAA (Clean Air Act) - HON Rule - Organic HAPs	XYLENE	1330-20-7
CAA (Clean Air Act) - HON Rule - SOCMI Chemicals	BENZENE	71-43-2
CAA (Clean Air Act) - HON Rule - SOCMI Chemicals	CUMENE	98-82-8
CAA (Clean Air Act) - HON Rule - SOCMI Chemicals	CYCLOHEXANE	110-82-7
CAA (Clean Air Act) - HON Rule - SOCMI Chemicals	ETHYL BENZENE	100-41-4
CAA (Clean Air Act) - HON Rule - SOCMI Chemicals	N-HEXANE	110-54-3
CAA (Clean Air Act) - HON Rule - SOCMI Chemicals	NAPHTHALENE	91-20-3
CAA (Clean Air Act) - HON Rule - SOCMI Chemicals	TOLUENE	108-88-3
CAA (Clean Air Act) - HON Rule - SOCMI Chemicals	XYLENE	1330-20-7

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Section 15 Regulatory Information (continued)

CAA - 1990 Hazardous Air Pollutants	BENZENE	71-43-2
CAA - 1990 Hazardous Air Pollutants	CUMENE	98-82-8
CAA - 1990 Hazardous Air Pollutants	ETHYL BENZENE	100-41-4
CAA - 1990 Hazardous Air Pollutants	N-HEXANE	110-54-3
CAA - 1990 Hazardous Air Pollutants	NAPHTHALENE	91-20-3
CAA - 1990 Hazardous Air Pollutants	TOLUENE	108-88-3
CAA - 1990 Hazardous Air Pollutants	XYLENE	1330-20-7
Canada - WHMIS - Ingredient Disclosure	1,2,4-TRIMETHYLBENZENE	95-63-6
Canada - WHMIS - Ingredient Disclosure	BENZENE	71-43-2
Canada - WHMIS - Ingredient Disclosure	CUMENE	98-82-8
Canada - WHMIS - Ingredient Disclosure	CYCLOHEXANE	110-82-7
Canada - WHMIS - Ingredient Disclosure	ETHYL BENZENE	100-41-4
Canada - WHMIS - Ingredient Disclosure	LIGHT PETROLEUM DISTILLATE	8006-61-9
Canada - WHMIS - Ingredient Disclosure	N-HEXANE	110-54-3
Canada - WHMIS - Ingredient Disclosure	NAPHTHALENE	91-20-3
Canada - WHMIS - Ingredient Disclosure	TOLUENE	108-88-3
CERCLA/SARA - Haz Substances and their RQs	BENZENE	71-43-2
CERCLA/SARA - Haz Substances and their RQs	BENZENE	71-43-2
CERCLA/SARA - Haz Substances and their RQs	CUMENE	98-82-8
CERCLA/SARA - Haz Substances and their RQs	CUMENE	98-82-8
CERCLA/SARA - Haz Substances and their RQs	CYCLOHEXANE	110-82-7
CERCLA/SARA - Haz Substances and their RQs	CYCLOHEXANE	110-82-7
CERCLA/SARA - Haz Substances and their RQs	ETHYL BENZENE	100-41-4
CERCLA/SARA - Haz Substances and their RQs	ETHYL BENZENE	100-41-4
CERCLA/SARA - Haz Substances and their RQs	N-HEXANE	110-54-3
CERCLA/SARA - Haz Substances and their RQs	N-HEXANE	110-54-3
CERCLA/SARA - Haz Substances and their RQs	NAPHTHALENE	91-20-3
CERCLA/SARA - Haz Substances and their RQs	NAPHTHALENE	91-20-3
CERCLA/SARA - Haz Substances and their RQs	TOLUENE	108-88-3
CERCLA/SARA - Haz Substances and their RQs	TOLUENE	108-88-3
CERCLA/SARA - Haz Substances and their RQs	XYLENE	1330-20-7
CERCLA/SARA - Haz Substances and their RQs	XYLENE	1330-20-7
CERCLA/SARA - Section 313 - Emission Reporting	1,2,4-TRIMETHYLBENZENE	95-63-6
CERCLA/SARA - Section 313 - Emission Reporting	BENZENE	71-43-2
CERCLA/SARA - Section 313 - Emission Reporting	CUMENE	98-82-8
CERCLA/SARA - Section 313 - Emission Reporting	CYCLOHEXANE	110-82-7
CERCLA/SARA - Section 313 - Emission Reporting	ETHYL BENZENE	100-41-4
CERCLA/SARA - Section 313 - Emission Reporting	N-HEXANE	110-54-3
CERCLA/SARA - Section 313 - Emission Reporting	NAPHTHALENE	91-20-3
CERCLA/SARA - Section 313 - Emission Reporting	TOLUENE	108-88-3
CERCLA/SARA - Section 313 - Emission Reporting	XYLENE	1330-20-7
CWA (Clean Water Act) - Hazardous Substances	BENZENE	71-43-2
CWA (Clean Water Act) - Hazardous Substances	CYCLOHEXANE	110-82-7
CWA (Clean Water Act) - Hazardous Substances	ETHYL BENZENE	100-41-4
CWA (Clean Water Act) - Hazardous Substances	NAPHTHALENE	91-20-3
CWA (Clean Water Act) - Hazardous Substances	TOLUENE	108-88-3
CWA (Clean Water Act) - Hazardous Substances	XYLENE	1330-20-7
CWA (Clean Water Act) - Priority Pollutants	BENZENE	71-43-2
CWA (Clean Water Act) - Priority Pollutants	ETHYL BENZENE	100-41-4
CWA (Clean Water Act) - Priority Pollutants	NAPHTHALENE	91-20-3
CWA (Clean Water Act) - Priority Pollutants	TOLUENE	108-88-3

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Section 15 Regulatory Information (continued)

CWA (Clean Water Act) - Toxic Pollutants	BENZENE	71-43-2
CWA (Clean Water Act) - Toxic Pollutants	ETHYL BENZENE	100-41-4
CWA (Clean Water Act) - Toxic Pollutants	NAPHTHALENE	91-20-3
CWA (Clean Water Act) - Toxic Pollutants	TOLUENE	108-88-3
IARC - Group 1 (carcinogenic to humans)	BENZENE	71-43-2
IARC - Group 2B (Possibly carcinogenic to humans)	ETHYL BENZENE	100-41-4
IARC - Group 2B (Possibly carcinogenic to humans)	LIGHT PETROLEUM DISTILLATE	8006-61-9
IARC - Group 2B (Possibly carcinogenic to humans)	NAPHTHALENE	91-20-3
IARC - Group 3 (not classifiable)	TOLUENE	108-88-3
IARC - Group 3 (not classifiable)	XYLENE	1330-20-7
Inventory - Canada - Domestic Substances List	1,2,4-TRIMETHYLBENZENE	95-63-6
Inventory - Canada - Domestic Substances List	BENZENE	71-43-2
Inventory - Canada - Domestic Substances List	CUMENE	98-82-8
Inventory - Canada - Domestic Substances List	CYCLOHEXANE	110-82-7
Inventory - Canada - Domestic Substances List	ETHYL BENZENE	100-41-4
Inventory - Canada - Domestic Substances List	LIGHT PETROLEUM DISTILLATE	8006-61-9
Inventory - Canada - Domestic Substances List	N-HEXANE	110-54-3
Inventory - Canada - Domestic Substances List	NAPHTHALENE	91-20-3
Inventory - Canada - Domestic Substances List	TOLUENE	108-88-3
Inventory - Canada - Domestic Substances List	XYLENE	1330-20-7
Inventory - TSCA - Sect. 8(b) Inventory	1,2,4-TRIMETHYLBENZENE	95-63-6
Inventory - TSCA - Sect. 8(b) Inventory	BENZENE	71-43-2
Inventory - TSCA - Sect. 8(b) Inventory	CUMENE	98-82-8
Inventory - TSCA - Sect. 8(b) Inventory	CYCLOHEXANE	110-82-7
Inventory - TSCA - Sect. 8(b) Inventory	ETHYL BENZENE	100-41-4
Inventory - TSCA - Sect. 8(b) Inventory	LIGHT PETROLEUM DISTILLATE	8006-61-9
Inventory - TSCA - Sect. 8(b) Inventory	N-HEXANE	110-54-3
Inventory - TSCA - Sect. 8(b) Inventory	NAPHTHALENE	91-20-3
Inventory - TSCA - Sect. 8(b) Inventory	TOLUENE	108-88-3
Inventory - TSCA - Sect. 8(b) Inventory	XYLENE	1330-20-7
OSHA - Final PELs - Ceiling Limits	BENZENE	71-43-2
OSHA - Final PELs - Ceiling Limits	TOLUENE	108-88-3
OSHA - Final PELs - Skin Notations	CUMENE	98-82-8
OSHA - Final PELs - Time Weighted Averages	BENZENE	71-43-2
OSHA - Final PELs - Time Weighted Averages	CUMENE	98-82-8
OSHA - Final PELs - Time Weighted Averages	CYCLOHEXANE	110-82-7
OSHA - Final PELs - Time Weighted Averages	ETHYL BENZENE	100-41-4
OSHA - Final PELs - Time Weighted Averages	N-HEXANE	110-54-3
OSHA - Final PELs - Time Weighted Averages	NAPHTHALENE	91-20-3
OSHA - Final PELs - Time Weighted Averages	TOLUENE	108-88-3
OSHA - Final PELs - Time Weighted Averages	XYLENE	1330-20-7
OSHA - Regulated Carcinogens	BENZENE	71-43-2
OSHA - Select Carcinogens	BENZENE	71-43-2
Pennsylvania - RTK (Right to Know) List	1,2,4-TRIMETHYLBENZENE	95-63-6
Pennsylvania - RTK (Right to Know) List	BENZENE	71-43-2
Pennsylvania - RTK (Right to Know) List	CUMENE	98-82-8
Pennsylvania - RTK (Right to Know) List	CYCLOHEXANE	110-82-7

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Section 15 Regulatory Information (continued)

Pennsylvania - RTK (Right to Know) List	THYL BENZENE	100-41-4
Pennsylvania - RTK (Right to Know) List	N-HEXANE	110-54-3
Pennsylvania - RTK (Right to Know) List	NAPHTHALENE	91-20-3
Pennsylvania - RTK (Right to Know) List	TOLUENE	108-88-3
Pennsylvania - RTK (Right to Know) List	XYLENE	1330-20-7
Pennsylvania - RTK - Special Hazardous Substances	BENZENE	71-43-2
TSCA - Sect. 12(b) - Export Notification	CYCLOHEXANE	110-82-7
TSCA - Sect. 12(b) - Export Notification	N-HEXANE	110-54-3
TSCA - Section 8(a) - PAIR Reporting List	NAPHTHALENE	91-20-3

Section 16 Other Information

Precautionary labeling for pumps, portable containers, and drums is required. A "hazardous when empty" pictogram and D.O.T. flammable liquid label are also required for drums. Details available upon request. Because benzene is present in this product above 0.1%, the OSHA Standard for benzene is applicable to work locations upstream of final discharge from terminals. Consult 29CFR1910.1028 for details. Prolonged and repeated excessive exposures to benzene can result in blood disorders ranging from anemia to leukemia. Sun recommends that exposures to benzene be kept below 1.0 ppm for 8-hours; 5.0 ppm for 15-min. Normal service station operations are below these values. For use as motor fuel only. Do not use for any other purpose. Catecholamines and similar adrenergic drugs are generally contraindicated because of potential for increased sensitivity of the heart from hydrocarbon overexposure and subsequent ventricular fibrillation. EKG monitoring may be indicated and bronchodilators should be selected with care. Following injection, prompt debridement of the wound is necessary to minimize necrosis and tissue loss. COMPONENT TOXICITY: Overexposure to naphthalene, a minor component of this product, may cause skin, eye and respiratory tract irritation, anemia, loss of vision, nervous system effects and kidney and thymus damage. Also, exposure to naphthalene has produced "respiratory tract" tumors in laboratory animals.

Preparation Date of Material Safety Data Sheet

DATE PREPARED..... 03/06/96
REVISION DATE 08/20/04

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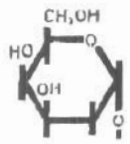

Poly-Drill Drilling Systems
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email: polydril@telus.net
www.poly-drill.com

poly-drill.com

MATERIAL SAFETY DATA SHEET/FICHE SIGNALETIQUE

1. PRODUCT IDENTIFICATION

PRODUCT TRADE NAME:	Poly-Drill 133-X
PRODUCT DESCRIPTION:	LIQUID ANIONIC POLYMER
CHEMICAL DESCRIPTION:	Polymer, Surfactant(s), Water, Hydrocarbon solvent
UPDATED:	March 15, 2004

NFPA704M/HMIS RATING

HEALTH:	FLAMMABILITY:	REACTIVITY:	OTHER:
0/1	1/1	0/0	
0=Insignificant	1=Slight	2=Moderate	3=High 4=Extreme

2. COMPOSITION

A liquid polymer: Evaluation of the ingredient(s) has found no ingredient(s) hazardous as per WHMIS regulations. None of the substances in this product are hazardous.

3. PHYSICAL DATA

Flash Point: >100°C (PMCC)
Specific Gravity (@ 25°C.): 1.08
Solubility in Water: Emulsifiable
pH: 8.1 (1.0% solution)
Freeze Point: -10 °C (14 Degrees F)
Density (g/ml): 1.08 at 25 °C
Physical State: Liquid
Appearance: Blue liquid
Odor: Hydrocarbon

Note: These physical properties are typical values for this product.

4. FIRE AND EXPLOSION DATA

INCOMPATIBILITY: Avoid contact with strong oxidizers (eg. Chlorine, peroxides, chromates, nitric acid, perchlorates, concentrated oxygen, permanganates) which can generate heat, fires, explosions and the release of toxic fumes.

THERMAL DECOMPOSTION PRODUCTS: In the event of combustion CO, oxides of carbon (COx), oxides of nitrogen (NOx) may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

5. FIRE FIGHTING MEASURES

FLASH POINT: >100°C (PMCC)

EXTINGUISHING MEDIA: Based on the NFPA guide, use dry chemical, foam, carbon dioxide or other extinguishing agent suitable for Class B fires. Use water to cool containers exposed to fire. For larger fires, use water spray or fog, thoroughly drenching the burning material.

UNSUITABLE EXTINGUISHING MEDIA:
Do not use water unless flooding amounts are available.

UNUSUAL FIRE AND EXPLOSION HAZARD: May evolve oxides of nitrogen (NOx) under fire conditions.

6. HEALTH HAZARD DATA

EMERGENCY OVERVIEW:
CAUTION: May cause irritation to skin and eyes. Avoid contact with skin, eyes and clothing. Do not take internally.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

PRIMARY ROUTE(S) OF EXPOSURE: Eye & Skin

EYE CONTACT: Can cause mild to moderate irritation
SKIN CONTACT: Can cause mild, short-lasting irritation

SYMPTOMS OF EXPOSURE: A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions.

7. EMERGENCY AND FIRST AID PROCEDURES

SKIN: Wash exposed area with soap and water. If irritation or abnormalities persist, call a physician.
EYE: Immediately flush eyes with water for 15 minutes, if irritation or abnormalities persist, call a physician.
INHALATION: Remove to fresh air. If breathing becomes difficult, give oxygen and call a physician.
INGESTION: Do not induce vomiting: Call a physician immediately.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water. Call for medical assistance immediately.

8. HANDLING, ACCIDENTAL RELEASE MEASURES & DISPOSAL CONSIDERATIONS

Storage: Keep container tightly closed when not in use.

DISPOSAL:
In Ontario, the waste class under Regulation 347 is: 233L

SMALL SPILLS:
Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area.

LARGE SPILLS:
Contain liquid using absorbent material, by digging trenches or by dyking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Contact approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated.

Dispose of wastes in an approved incinerator or waste treatment/disposal site, in accordance with all applicable regulations. Do not dispose of wastes in local sewer or with normal garbage.

ENVIRONMENTAL PRECAUTIONS
This product should NOT be directly discharged into lakes, ponds, streams, waterways or public water supplies.

As a non-hazardous liquid waste, it should be solidified with stabilizing agents (such as sand, fly ash, or cement) so that no free liquid remains before disposal to an industrial waste landfill. A non-hazardous liquid waste can also be incinerated in accordance with local, state, provincial and federal regulations.

9. INDUSTRIAL HYGIENE CONTROL MEASURES

OCCUPATIONAL EXPOSURE LIMITS:
This product does not contain any substance that has an established exposure limit.

Respiratory Protection: None normally required.

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a positive pressure, self-contained breathing apparatus is recommended.

Ventilation: General ventilation is recommended.

Eye Protection: Safety glasses, if personally preferred
Gloves: Generally not necessary. Personal preference. Examples of impermeable gloves available on the market are neoprene, nitrile, PVC, natural rubber, viton, and butyl (compatibility studies have not been performed).

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

10. TOXICOLOGICAL PROPERTIES

SENSITIZATION:
This product is not expected to be a sensitizer.

A "LC50-96" Pass/Fail Bioassay test. This test determines the lethality of a fluid on young aquatic organisms . The fluid fails if 50% or more of the animals are dead after 96 hours in the fluid.

96 hour static acute LC50 to Rainbow Trout = Greater than 1,000 mg/L
96 hour no observed effect concentration = 125 mg/L based on no mortality or abnormal effects
96 hour static acute LC50 to Sheepshead Minnow = Greater than 1,000 mg/L
96 hour no observed effect concentration = 1,000 mg/L (highest concentration tested) based on no mortality or abnormal effects.
96 hour static acute LC50 to Mysid Shrimp = 400 mg/L
96 hour no observed effect concentration = 180 mg/L based on no mortality or abnormal effects.
96 hour static acute LC50 to *Daphnia Magna* - 400 mg/L
96 hour no observed effect concentration = 56 mg/L (lowest concentration tested) based on no mortality or abnormal effects.

Microtoxicity

The Microtox bioassay has been established as the reference test for mud additive toxicity testing.

Test Method: Luminescent Bacteria, IC50@ 15 min
Reference: Appendix 1: Microtox Bioassay Procedure, Drilling Waste Management, Guide G50. 1993. Alberta Energy and Utilities Board, Calgary, AB, Canada.
Sample: Poly Drill 1330, sample #97324-1 for test #970723, 97/05/09 by D. Lintott
Preparation: Sample was diluted to 2 g/L, which formed thick, slightly cloudy liquid. The sample was then centrifuged for 1 hour.

Test Results:

SAMPLE	TREATMENT	%CTL	IC20%	IC50	RESULT
97324-1	None	N/A	14 (9-22)	>91	PASS

The following results are for a 1% aqueous solution of product.

CARCINOGENCITY:
None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Government Industrial Hygienists (ACGIH).

HUMAN HAZARD CHARACTERIZATION:
Based on our Hazard Characterization, the potential human hazard is: LOW

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION:
Based on our Hazard Characterization, the potential environmental hazard is: LOW.

11. DEPARTMENT OF TRANSPORTATION INFORMATION

PROPER SHIPPING NAME/HAZARD CLASS MAY VARY BY PACKAGING, PROPERTIES, AND MODE OF TRANSPORTATION. TYPICAL PROPER SHIPPING NAMES FOR THIS PRODUCT ARE:

ALL TRANSPORTATION MODES: PRODUCT IS NOT REGULATED DURING TRANSPORATION

Shipping Name: Liquid Drilling Additive
Hazard Class: Not hazardous
Cautionary Labeling: None required

14. OTHER INFORMATION

This information contained herein is given in good faith, but no warranty, expressed or implied is made

Material Safety Data Sheet

Section 1. Product and Company Identification

Product Name Calcium Chloride, Dihydrate

Product Code CX0134

Effective Date 8/20/2004

Manufacturer
EMD Chemicals Inc.
P.O. Box 70
480 Democrat Road
Gibbstown, NJ 08027
Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc.

For More Information Call
856-423-6300 Technical Service
Monday-Friday: 8:00 AM - 5:00 PM

In Case of Emergency Call
800-424-9300 CHEMTREC (USA)
613-996-6666 CANUTEC (Canada)
24 Hours/Day: 7 Days/Week

Synonym CALCIUM CHLORIDE
Material Uses Analytical reagent.
Chemical Family Inorganic salt

Section 2. Composition and Information on Ingredients

Component	CAS #	% by Weight
CALCIUM CHLORIDE, DIHYDRATE	10035-04-8	100

Section 3. Hazards Identification

Physical State and Appearance Solid. (Powder or flakes solid. Granular solid.)

Emergency Overview
CAUTION!
CAUSES EYE IRRITATION.
MAY CAUSE SKIN IRRITATION.

Routes of Entry Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Potential Acute Health Effects

Eyes Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching.

Skin May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Inhalation No known acute effects of this product resulting from inhalation.

Ingestion Irritating to mouth, throat and stomach. Ingestion can cause nausea and vomiting.

Potential Chronic Health Effects

Carcinogenic Effects This material is not known to cause cancer in animals or humans.

Additional information See Toxicological Information (section 11)

Medical Conditions Aggravated by Overexposure: Repeated or prolonged exposure is not known to aggravate medical condition.

Section 4. First Aid Measures

Eye Contact Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 5. Fire Fighting Measures

Flammability of the Product May be combustible at high temperature

Auto-ignition Temperature Not available.

Flash Points	Not available.
Flammable Limits	Not available
Products of Combustion	These products are carbon oxides (CO, CO2), halogenated compounds. Some metallic oxides.
Fire Hazards in Presence of Various Substances	Not available
Explosion Hazards in Presence of Various Substances	**Risks of explosion of the product in presence of static discharge:** No. **Risks of explosion of the product in presence of mechanical impact:** No.
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Protective Clothing (Fire)	Be sure to use an approved/certified respirator or equivalent.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available.

Section 6. Accidental Release Measures

Small Spill and Leak	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill and Leak	Use a shovel to put the material into a convenient waste disposal container.
Spill Kit Information	No specific spill kit required for this product.

Section 7. Handling and Storage

Handling	Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Do not ingest. Do not breathe dust.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection

Eyes Splash goggles.

Body Lab coat.

Respiratory Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Hands Gloves.

Feet Not applicable.

Protective Clothing (Pictograms)

Personal Protection in Case of a Large Spill Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name	Exposure Limits
CALCIUM CHLORIDE, DIHYDRATE	Not available

Section 9. Physical and Chemical Properties

Odor	Not available.
Color	White.
Physical State and Appearance	Solid. (Powder or flakes solid. Granular solid.)
Molecular Weight	147.02 g/mole
Molecular Formula	CaCl2 . 2H2O
pH	Not available.
Boiling/Condensation Point	Not available.
Melting/Freezing Point	Not available.
Specific Gravity	Not available.
Vapor Pressure	Not available.
Vapor Density	Not available.
Odor Threshold	Not available.
Evaporation Rate	Not available.
LogKow	Not available.
Solubility	Soluble in water.

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Conditions of Instability	Not available.
Incompatibility with Various Substances	Reactive with metals, moisture.
Rem/Incompatibility	Not available.
Hazardous Decomposition Products	These products are halogenated compounds.
Hazardous Polymerization	Will not occur.

Section 11. Toxicological Information

RTECS Number:

Calcium Chloride, Dihydrate EV9810000

Toxicity	LD50: Not available. LC50: Not available.
Chronic Effects on Humans	Not available.
Acute Effects on Humans	Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching. May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
Synergetic Products (Toxicologically)	Not available.
Irritancy	Draize Test: Not available.
Sensitization	Not available.
Carcinogenic Effects	This material is not known to cause cancer in animals or humans.
Toxicity to Reproductive System	Not available.
Teratogenic Effects	Not available.
Mutagenic Effects	Tests on laboratory animals for mutagenic effects are cited in Registry of Toxic Effects of Chemical Substances (RTECS).

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Toxicity of the Products of Biodegradation	The products of degradation are more toxic than the product itself.

Section 13. Disposal Considerations

EPA Waste Number	Not available.
Treatment	Material does not have an EPA Waste Number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished. Always contact a permitted waste disposal (TSD) to assure compliance with all current local, state, and Federal Regulations.

Section 14. Transport Information

DOT Classification	Proper Shipping Name: CHEMICALS, N.O.S. RQ: Not applicable.
TDG Classification	Not available.
IMO/IMDG Classification	Proper Shipping Name: CHEMICALS, N.O.S. RQ: Not applicable.
ICAO/IATA Classification	Not available.

+Section 15. Regulatory Information

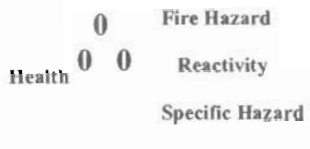
U.S. Federal Regulations

TSCA 8(b) inventory: Calcium Chloride, Dihydrate
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Calcium Chloride, Dihydrate
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Calcium Chloride, Dihydrate: Immediate (Acute) Health Hazard
SARA 313 toxic chemical notification and release reporting: No products were found.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean air act (CAA) 112 accidental release prevention: No products were found.
Clean air act (CAA) 112 regulated flammable substances: No products were found.

	Clean air act (CAA) 112 regulated toxic substances: No products were found.
WHMIS (Canada)	Class D-2B: Material causing other toxic effects (TOXIC).
	CEPA DSL: CALCIUM CHLORIDE
	This product has been classifed in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.
International Regulations	
EINECS	Not available.
DSCL (EEC)	R38- Irritating to skin.
	R41- Risk of serious damage to eyes.
International Lists	Australia (NICNAS): Calcium Chloride, Dihydrate
	Japan (MITI): Calcium Chloride, Dihydrate
	Philippines (RA6969): Calcium Chloride, Dihydrate
	China: No products were found.
State Regulations	No products were found.
	California prop. 65: No products were found.

Section 16. Other Information

National Fire Protection Association (U.S.A.)



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