

MATERIAL SAFETY DATA SHEET

SECTION I: IDENTIFICATION OF PRODUCT

COMPANY: Diversity Technologies Corp. DATE: March 13, 2016
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PRODUCT NAME: Chemcide

PRODUCT USE: Oilwell drilling fluid additive
CHEMICAL FAMILY: N-alkyltrimethylenediamine CAS#: 61791-64-8
acetates

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

WHMIS CLASSIFICATION: Not WHMIS controlled.
Registered biocide under Agriculture Canada Pest Control Act.
WORKPLACE HAZARD: Skin and eye irritant; chronic toxic effects

TRANSPORTATION OF DANGEROUS GOODS (TDG)

PROPER SHIPPING NAME: Not regulated under TDG
TDG CLASSIFICATION: Not applicable
UN NUMBER (PIN): Not applicable
PACKING GROUP: Not applicable

SECTION II: HAZARDOUS INGREDIENTS

<u>INGREDIENT</u>	<u>% (w/w)</u>	<u>CAS NUMBER</u>	<u>LD₅₀Oral-Rat</u>	<u>LC₅₀Inhal-Rat</u>	<u>ACGIH-TLV</u>
Ethylene glycol	15-40	107-21-1	4700 mg/kg	No information	Ceiling =50 ppm
N-coco alkyltrimethylene-diamine diacetates	10-30	61791-64-8	1.70 mL/kg	No information	No information

SECTION III: HEALTH HAZARDS

ROUTE OF ENTRY: [XX] EYE CONTACT [XX] SKIN [XX] INHALATION [XX] INGESTION
EYE CONTACT: This product is severely irritating after a 24 hour test, but only moderately irritating after a 72 hour test. The primary irritation index is 12.0/110. Prolonged contact may cause moderate to severe eye irritation.
SKIN CONTACT: The dermal LD₅₀ is greater than 15 mL/kg (tested on a rat). It is not considered a corrosive substance, but is moderately irritating (primary irritation index of 3.38/8.0-24 hour test on New Zealand rabbits). Prolonged contact may cause mild to moderate irritation with redness, severe swelling and blistering.

INGESTION:	May cause severe irritation or burns of mouth, throat and stomach. May cause abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, malaise, blurring of vision, irritability, lumbar pain, oligurea, uremia, central nervous system effects including irregular eye movements, convulsions and coma. Cardiac failure and pulmonary oedema may develop. Severe kidney damage may result from swallowing large quantities of ethylene glycol. May be fatal. Animal toxicity values do not meet criteria, but ethylene glycol is more toxic to humans and there are numerous human case reports of toxicity and death published in the literature.
INHALATION:	Because of low vapor pressure, significant amounts of airborne vapours are not expected at room temperatures. Heated vapours or mists may irritate nose, throat and lungs.
CARCINOGENICITY:	No information available.
TERATOGENICITY:	Ethylene glycol has been shown to produce dose-related teratogenic, fetotoxic and embryotoxic effects in rats and mice when given by gavage or in drinking water at high concentration or doses.
REPRODUCTIVE TOXICITY:	No information available.
MUTAGENICITY:	No information available.
SYNERGISTIC PRODUCTS:	No information available.

SECTION IV: FIRST AID MEASURES

SKIN CONTACT:	Remove contaminated clothing and wash thoroughly with soap and water. If irritation persists, or develops, obtain medical attention.
EYE CONTACT:	Immediately flush with gently flowing, warm water for at least 15 minutes. Remove contact lenses if present. Hold eyelids apart to ensure thorough flushing. Do not attempt to neutralize with chemical agents. When flushing is complete and no further irritation is observed, obtain medical attention
INGESTION:	Do not induce vomiting. If conscious, rinse out mouth and give 1 to 2 glasses of water to drink. If vomiting occurs, keep head below hips to prevent aspiration, and give more water. Obtain immediate medical attention. Never give anything by mouth unless victim is fully conscious.
INHALATION:	Move to area free from contaminants. Apply oxygen or artificial respiration if required. If breathing difficulties or distress continues, obtain medical attention.

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOUR:	Cloudy yellowish-orange liquid; vinegar odour
SPECIFIC GRAVITY:	1.05
BOILING POINT (°C):	Not determined

MELTING POINT (°C):	Not determined
SOLUBILITY IN WATER:	Slightly soluble pH: 8
PERCENT VOLATILE BY VOLUME:	Not determined
EVAPORATION RATE:	<1 (butyl acetate=1)
VAPOUR PRESSURE (mmHg):	<1 @ 20°C
VAPOUR DENSITY (air = 1):	2.14 (ethylene glycol)
BULK DENSITY:	Not available

SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	>100 °C (PMCC) FLAMMABLE
LIMITS:	3.2 – 15.3% (ethylene glycol)
EXTINGUISHING MEDIA:	Dry chemical, foam, CO ₂ or water fog
SPECIAL FIRE FIGHTING PROCEDURES:	Self-contained breathing apparatus required for fire fighting personnel. Move containers from fire area, or cool with water spray, if possible.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	Vapour forms explosive mixture between lower and upper flammable limits. This product may burn under fire conditions.

SECTION VII: REACTIVITY DATA

STABILITY:	STABLE [XX] UNSTABLE []
INCOMPATIBILITY (CONDITIONS TO AVOID):	Strong oxidizers, strong acids, acid chlorides, CrO ₃ and hydrogen peroxide.
CONDITIONS OF REACTIVITY:	Not available
HAZARDOUS DECOMPOSITION PRODUCTS:	Oxides of carbon, oxides of nitrogen, hydrogen chloride and possibly hydrogen cyanide.
HAZARDOUS POLYMERIZATION:	WILL NOT OCCUR [XX] MAY OCCUR []

SECTION VIII: PREVENTATIVE MEASURES

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:	Use approved respirators with organic vapour cartridges if airborne concentrations exceed TLV.
VENTILATION:	Use local exhaust ventilation, process enclosure or other engineering controls to maintain concentration of airborne contaminants below TLV.
PROTECTIVE GLOVES:	Suggest rubber or viton
EYE PROTECTION:	Suggest chemical goggles and/or full face-shield be worn. Do not wear contact lenses when handling this material.
OTHER PROTECTIVE EQUIPMENT (Specify):	Ensure eyewash station and emergency shower are available.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid ingestion. Practice reasonable caution and personal cleanliness. Avoid skin and eye contact. Store in a cool, dry area away from incompatibles and ignition sources. Keep container tightly closed when not in use. Store unused material in original container. Follow all directions for use given on container label. Store and handle empty containers as if full.

STEPS TO BE TAKEN IN CASE THE MATERIAL IS SPILLED OR RELEASED

Use appropriate safety equipment. Eliminate ignition sources. Stop leak if possible to do so without risk. Small spills: Soak up with absorbent material; collect used absorbent material in approved containers for disposal. Large spills: Dike to prevent spread; collect diked material with vacuum truck; collect uncontaminated material for repackaging; collect contaminated material in approved containers for disposal; treat remaining material as a small spill. Wash spill area thoroughly with water. This product is toxic to fish. Ensure spilled material does not enter storm sewers or public waterways.

WASTE DISPOSAL METHOD

Dispose in accordance with federal, provincial and local regulations. It is the responsibility of the end user to determine if material meets the criteria of hazardous waste at the time of disposal. Empty containers that have not been cleaned and purged, contain residual hazardous material and must be disposed of, or recycled in accordance with local regulations.

SECTION IX: PREPARATION

THE INFORMATION CONTAINED HEREIN IS GIVEN IN GOOD FAITH,
BUT NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE.

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SUPERSEDES: **March 13, 2013** PHONE: 780-440-4923