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| SAFETY DATA SHEET | | Revision Date: 06/17/2016 |
| | | Print Date: 12/1/2016 |
| | | SDS Number: R0318755 |
| <u>Zerex™ DEX COOL FORMULA ANTIFREEZE COOLANT</u> ZXEL1 | | Version: 1.1 |

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : Zerex™ DEX COOL FORMULA
ANTIFREEZE COOLANT

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4

Reproductive toxicity : Category 2

Specific target organ systemic toxicity - repeated exposure (Oral) : Category 2 (Kidney, Liver)

GHS label elements

Hazard pictograms :



Signal Word : Warning

Hazard Statements : Harmful if swallowed.
Suspected of damaging fertility or the unborn child.
May cause damage to organs (Kidney, Liver) through prolonged or repeated exposure if swallowed.

Precautionary Statements : **Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and

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understood.
Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
IF exposed or concerned: Get medical advice/ attention.
Storage:
Store locked up.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

| Chemical name | CAS-No. | Classification | Concentration (%) |
|----------------------------|-----------|---------------------------------------|-------------------|
| ETHYLENE GLYCOL | 107-21-1 | Acute Tox. 4; H302 STOT RE 2; H373 | 93.555 |
| DIETHYLENE GLYCOL | 111-46-6 | Acute Tox. 4; H302 STOT RE 2; H373 | 4.6774 |
| POTASSIUM 2-ETHYLHEXANOATE | 3164-85-0 | Skin Irrit. 2; H315 Repr. 2; H361 | 3.75 |

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Call a POISON CENTRE or doctor/physician if exposed or you feel unwell.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

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- If inhaled : If breathed in, move person into fresh air.
If unconscious place in recovery position and seek medical advice.
If symptoms persist, call a physician.
- In case of skin contact : Remove contaminated clothing. If irritation develops, get medical attention.
If on skin, rinse well with water.
Wash contaminated clothing before re-use.
- In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
If eye irritation persists, consult a specialist.
- If swallowed : Obtain medical attention.
Rinse mouth with water.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : Effects of acute ethylene glycol poisoning appear in three fairly distinct stages. The initial stage occurs shortly after exposure, lasts 6-12 hours, and is characterized by central nervous system effects (transient exhilaration, nausea, vomiting, and in severe cases, coma, convulsions, and possible death). The second stage lasts from 12-36 hours after exposure and is initiated by the onset of coma. This phase is characterized by tachypnea, tachycardia, mild hypotension, cyanosis, and in severe cases, pulmonary edema, bronchopneumonia, cardiac enlargement, and congestive failure. The final stage occurs 24-72 post-exposure and is characterized by renal failure, ranging from a mild increase in blood urea nitrogen and creatinine followed by recovery, to complete anuria with acute tubular necrosis that can lead to death. Oxaluria is found in most cases. The most significant laboratory finding in ethylene glycol intoxication is severe metabolic acidosis.
- Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
stomach or intestinal upset (nausea, vomiting, diarrhea)
irritation (nose, throat, airways)
Cough
pain in the abdomen and lower back
cyanosis (causes blue coloring of the skin and nails from lack of oxygen)
lung edema (fluid buildup in the lung tissue)
acute kidney failure (sudden slowing or stopping of urine production)
Convulsions

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Harmful if swallowed.
Suspected of damaging fertility or the unborn child.

Notes to physician : This product contains ethylene glycol. Ethanol decreases the metabolism of ethylene glycol to toxic metabolites. Ethanol should be administered as soon as possible in cases of severe poisoning since the elimination half-life of ethylene glycol is 3 hours. If medical care will be delayed several hours, give the patient three to four 1-ounce oral "shots" of 86-proof or higher whiskey before or during transport to the hospital. Fomepizole (4-methylpyrazole) is an effective antagonist of alcohol dehydrogenase, and as such, may be used as an antidote in the treatment of ethylene glycol poisoning. Hemodialysis effectively removes ethylene glycol and its metabolites from the body.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Alcohols
Aldehydes
carbon dioxide and carbon monoxide
ethers
toxic fumes
Hydrocarbons
acetaldehyde
formaldehyde-like
potassium oxide

Specific extinguishing methods :

Product is compatible with standard fire-fighting agents.

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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Special protective equipment : In the event of fire, wear self-contained breathing apparatus for firefighters

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment. Ensure adequate ventilation. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
- Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.
- Other information : Comply with all applicable federal, state, and local regulations.

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Do not breathe vapours/dust. Do not smoke. Container hazardous when empty. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|-----------------|----------|-------------------------------|--|-------|
| ETHYLENE GLYCOL | 107-21-1 | Ceiling | 100 mg/m3 | ACGIH |

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| | | | Aerosol. | |
| | | TWA | 10 mg/m3 Inhalable fraction and vapor | ACGIHLIS_P |
| | | | | ACGIH |
| | | TWA | 10 mg/m3 | ACGIHLIS_P |
| | | TWA | 25 ppm | ACGIHLIS_P |
| | | STEL | 50 ppm | ACGIHLIS_P |
| | | Ceiling | 50 ppm 125 mg/m3 | Z1A |
| DIETHYLENE GLYCOL | 111-46-6 | TWA | 10 mg/m3 | WEEL |
| | | ST ESL | 50 µg/m3 | TX ESL |
| | | ST ESL | 400 µg/m3 | TX ESL |
| | | AN ESL | 5 µg/m3 | TX ESL |
| | | AN ESL | 40 µg/m3 | TX ESL |

Hazardous components without workplace control parameters

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection : A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Hand protection

Remarks

: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection

: Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.

Skin and body protection

: Wear as appropriate:
Impervious clothing
Safety shoes
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures

: Wash hands before breaks and at the end of workday.
When using do not eat or drink.

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When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|---------------------------------------|
| Physical state | : liquid |
| Colour | : orange |
| Odour | : No data available |
| Odour Threshold | : No data available |
| pH | : Average 8.4 |
| Melting point/freezing point | : -34.6 °F / -37.0 °C |
| Boiling point/boiling range | : 330 °F / 166 °C (1013 hPa) |
| Flash point | : > 121.1 °C Method: Closed Cup |
| Evaporation rate | : No data available |
| Flammability (solid, gas) | : No data available |
| Upper explosion limit | : 15.3 %(V) |
| Lower explosion limit | : 3.2 %(V) |
| Vapour pressure | : 17.5 mmHg |
| Relative vapour density | : No data available |
| Relative density | : No data available |
| Density | : 1.1149 g/cm ³ (15.56 °C) |
| Solubility(ies) | |
| Water solubility | : No data available |
| Solubility in other solvents | : No data available |
| Partition coefficient: n-octanol/water | : No data available |
| Thermal decomposition | : No data available |
| Viscosity | |

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Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Oxidizing properties : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : Stable under recommended storage conditions.

Possibility of hazardous reactions : Product will not undergo hazardous polymerization.

Conditions to avoid : excessive heat

Incompatible materials : Acids
Aldehydes
Alkali metals
Alkaline earth metals
Bases
strong alkalis
Strong oxidizing agents
Sulphur compounds

Hazardous decomposition products : Alcohols
Aldehydes
carbon dioxide and carbon monoxide
ethers
Hydrocarbons
Organic acids
potassium oxide
ketones

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin contact
Eye Contact
Ingestion

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity :
Remarks: Ingestion of medications contaminated with diethylene glycol has caused kidney failure and death in

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humans. Products containing diethylene glycol should be considered toxic by ingestion.

Acute dermal toxicity : Remarks: Skin absorption of this material (or a component) may be increased through injured skin.

Components:

ETHYLENE GLYCOL:

Acute oral toxicity : LD 50 (Rat): 6,140 mg/kg
 LD50 (Human): Estimated 1.56 g/kg
 Assessment: The component/mixture is classified as acute oral toxicity, category 4.

Acute inhalation toxicity : LC 50 (Rat): 10.9 mg/l
 Exposure time: 1 h
 Test atmosphere: dust/mist
 Assessment: No adverse effect has been observed in acute inhalation toxicity tests.

Acute dermal toxicity : LD 50 (Rabbit): 9,530 mg/kg

DIETHYLENE GLYCOL:

Acute oral toxicity : LD50 (Human): Expected 1,120 mg/kg
 Target Organs: Kidney

Acute inhalation toxicity : LC50 (Rat): > 4.6 mg/l
 Exposure time: 4 h
 Test atmosphere: dust/mist
 Assessment: No adverse effect has been observed in acute inhalation toxicity tests.

Acute dermal toxicity : LD 50 (Rabbit): 13,300 mg/kg

POTASSIUM 2-ETHYLHEXANOATE:

Acute oral toxicity : LD50 (Rat): 3,640 mg/kg
 Remarks: Information given is based on data obtained from similar substances.

Acute inhalation toxicity : LC50 (Rat): > 0.11 mg/l
 Exposure time: 8 h
 Test atmosphere: dust/mist
 Assessment: Not classified as acutely toxic by inhalation under GHS.
 Remarks: No mortality observed at this dose.
 Information given is based on data obtained from similar substances.

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
 Assessment: Not classified as acutely toxic by dermal absorption under GHS.

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Remarks: Information given is based on data obtained from similar substances.

Skin corrosion/irritation

Not classified based on available information.

Components:

ETHYLENE GLYCOL:

Result: Mildly irritating to skin

DIETHYLENE GLYCOL:

Species: Human

Result: Slightly irritating to skin

POTASSIUM 2-ETHYLHEXANOATE:

Species: Rabbit

Method: OECD Test Guideline 404

Result: Irritating to skin.

GLP: yes

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin.

Components:

ETHYLENE GLYCOL:

Result: Possibly irritating to eyes

DIETHYLENE GLYCOL:

Species: Rabbit

Result: Slightly irritating to eyes

POTASSIUM 2-ETHYLHEXANOATE:

Result: Possibly irritating to eyes

Respiratory or skin sensitisation

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

Components:

DIETHYLENE GLYCOL:

Test Type: Maximisation Test

Species: Guinea pig

Method: Directive 67/548/EEC, Annex V, B.6.

Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Not classified based on available information.

Components:

DIETHYLENE GLYCOL:

Genotoxicity in vitro

: Test Type: Ames test

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

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GLP: yes

: Test species: Chinese hamster ovary cells
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 479
 Result: negative
 GLP: yes

Genotoxicity in vivo : Test Type: In vivo micronucleus test
 Test species: Mouse
 Method: OECD Test Guideline 474
 Result: negative
 GLP: yes

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

Components:

POTASSIUM 2-ETHYLHEXANOATE:

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Components:

ETHYLENE GLYCOL:

Exposure routes: Ingestion

Target Organs: Kidney, Liver

Assessment: May cause damage to organs through prolonged or repeated exposure.

DIETHYLENE GLYCOL:

Exposure routes: Ingestion

Target Organs: Kidney

Assessment: May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity

Not classified based on available information.

Product:

No aspiration toxicity classification

Experience with human exposure

Components:

DIETHYLENE GLYCOL:

Liver

Further information

Product:

Remarks: No data available

Carcinogenicity:

IARC

No component of this product present at levels greater than or

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equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Ecotoxicology Assessment

Acute aquatic toxicity : Not classified based on available information.

Chronic aquatic toxicity : Not classified based on available information.

Components:

ETHYLENE GLYCOL:

Toxicity to fish : LC 50 (Bluegill (*Lepomis macrochirus*)): 27,540 mg/l
Exposure time: 96 h
Method: Static
Remarks: Mortality

LC 50 (Fathead minnow (*Pimephales promelas*)): 8,050 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC 50 (Water flea (*Daphnia magna*)): > 10,000 mg/l
Exposure time: 48 h
Test Type: static test

DIETHYLENE GLYCOL:

Toxicity to fish : LC 50 (Fathead minnow (*Pimephales promelas*)): 75,210 mg/l
Exposure time: 96 h
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : LC 50 (Water flea (*Daphnia magna*)): > 10,000 mg/l
Exposure time: 24 h
Test Type: static test
Method: DIN 38412

POTASSIUM 2-ETHYLHEXANOATE:

Toxicity to fish : LC50 (Fish): > 100 mg/l
Exposure time: 96 h
Remarks: Information given is based on data obtained from similar substances.

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Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 106 mg/l
 Exposure time: 48 h
 Test Type: static test
 Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 49.3 mg/l
 End point: Growth inhibition
 Exposure time: 72 h
 Test Type: static test
 Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 25 mg/l
 Exposure time: 21 d
 Test Type: static test
 Remarks: Information given is based on data obtained from similar substances.

Persistence and degradability

Components:

DIETHYLENE GLYCOL:

Biodegradability : Result: Readily biodegradable
 Biodegradation: 70 - 80 %
 Exposure time: 28 d
 Method: OECD Test Guideline 301B

POTASSIUM 2-ETHYLHEXANOATE:

Biodegradability : Result: Readily biodegradable
 Biodegradation: 99 %
 Exposure time: 28 d
 Remarks: Information given is based on data obtained from similar substances.

No data available

Bioaccumulative potential

Components:

ETHYLENE GLYCOL:

Bioaccumulation : Species: Crayfish (Procambarus)
 Bioconcentration factor (BCF): 0.27
 Exposure time: 61 d
 Concentration: 1000 mg/l
 Method: Flow through

Partition coefficient: n-octanol/water : log Pow: -1.36

DIETHYLENE GLYCOL:

Bioaccumulation : Species: Leuciscus idus (Golden orfe)
 Bioconcentration factor (BCF): 100

Partition coefficient: n-octanol/water : log Pow: -1.47

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No data available

Mobility in soil

Components:

No data available

Other adverse effects

No data available

Product:

Additional ecological information : No data available

Components:

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : Do not dispose of waste into sewer.
 Do not contaminate ponds, waterways or ditches with chemical or used container.
 Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.
 Dispose of as unused product.
 Empty containers should be taken to an approved waste handling site for recycling or disposal.
 Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

| ID NUMBER | PROPER SHIPPING NAME | *HAZARD CLASS | SUBSIDIARY HAZARDS | PACKING GROUP | MARINE POLLUTANT / LTD. QTY. |
|-----------|----------------------|---------------|--------------------|---------------|------------------------------|
| | | | | | |

U.S. DOT - ROAD

| |
|---------------------|
| Not dangerous goods |
|---------------------|

CFR_RAIL_C

| |
|---------------------|
| Not dangerous goods |
|---------------------|

U.S. DOT - INLAND WATERWAYS

| |
|---------------------|
| Not dangerous goods |
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TDG_ROAD_C

| |
|---------------------|
| Not dangerous goods |
| |

TDG_RAIL_C

| |
|---------------------|
| Not dangerous goods |
| |

TDG_INWT_C

| |
|---------------------|
| Not dangerous goods |
| |

INTERNATIONAL MARITIME DANGEROUS GOODS

| |
|---------------------|
| Not dangerous goods |
| |

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

| |
|---------------------|
| Not dangerous goods |
| |

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

| |
|---------------------|
| Not dangerous goods |
| |

MX_DG

| |
|---------------------|
| Not dangerous goods |
| |

*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

| | |
|------------------|----|
| Marine pollutant | no |
|------------------|----|

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

**EPCRA - Emergency Planning and Community Right-to-Know Act
 CERCLA Reportable Quantity**

| Components | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|-----------------|----------|--------------------|-----------------------------|
| ETHYLENE GLYCOL | 107-21-1 | 5000 | 5344.449789 |

SARA 311/312 Hazards : Acute Health Hazard
 Chronic Health Hazard

SARA 313 Component(s)

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ETHYLENE GLYCOL 107-21-1 93.55 %

California Prop 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

ETHYLENE GLYCOL 107-21-1

The components of this product are reported in the following inventories:

- TSCA : On TSCA Inventory
- DSL : q (quantity restricted)
- AICS : Not in compliance with the inventory
- ENCS : q (quantity restricted)
- KECI : Not in compliance with the inventory
- PICCS : Not in compliance with the inventory
- IECSC : On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information

Revision Date: 06/17/2016

| | | | | | | | |
|---|--|---------------|-----------|---------------------|----------|------------------------|----------|
| <p>NFPA:</p> <div style="text-align: center;"> <p>Flammability</p> <p>Health: 1, Flammability: 1, Instability: 0, Special hazard: 0</p> </div> | <p>HMIS III:</p> <table border="1" style="width: 100%;"> <tr> <td style="background-color: blue; color: white;">HEALTH</td> <td style="text-align: center;">1*</td> </tr> <tr> <td style="background-color: red; color: white;">FLAMMABILITY</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="background-color: yellow;">PHYSICAL HAZARD</td> <td style="text-align: center;">0</td> </tr> </table> <p>0 = not significant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme, * = Chronic</p> | HEALTH | 1* | FLAMMABILITY | 1 | PHYSICAL HAZARD | 0 |
| HEALTH | 1* | | | | | | |
| FLAMMABILITY | 1 | | | | | | |
| PHYSICAL HAZARD | 0 | | | | | | |

NFPA Flammable and Combustible Liquids Classification

Combustible Liquid Class IIIB

| | | |
|---|--|---------------------------|
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| ZXEL1 | | |

Full text of H-Statements

| | |
|------|---|
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H361 | Suspected of damaging fertility or the unborn child. |
| H373 | May cause damage to organs through prolonged or repeated exposure if swallowed. |

Sources of key data used to compile the Safety Data Sheet
 Ashland internal data including own and sponsored test reports
 The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :

ACGIH : American Conference of Industrial Hygienists
 BEI : Biological Exposure Index
 CAS : Chemical Abstracts Service (Division of the American Chemical Society).
 CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
 FG : Food grade
 GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
 H-statement : Hazard Statement
 IATA : International Air Transport Association.
 IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO : International Civil Aviation Organization
 ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"
 IMDG : International Maritime Code for Dangerous Goods
 ISO : International Organization for Standardization
 logPow : octanol-water partition coefficient
 LCxx : Lethal Concentration, for xx percent of test population
 LDxx : Lethal Dose, for xx percent of test population.
 ICxx : Inhibitory Concentration for xx of a substance
 Ecxx : Effective Concentration of xx
 N.O.S.: Not Otherwise Specified
 OECD : Organization for Economic Co-operation and Development
 OEL : Occupational Exposure Limit
 P-Statement : Precautionary Statement
 PBT : Persistent , Bioaccumulative and Toxic
 PPE : Personal Protective Equipment

| | | |
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STEL : Short-term exposure limit
 STOT : Specific Target Organ Toxicity
 TLV : Threshold Limit Value
 TWA : Time-weighted average
 vPvB : Very Persistent and Very Bioaccumulative
 WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
 DOT : Department of Transportation
 FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
 HMIRC : Hazardous Materials Information Review Commission
 HMIS : Hazardous Materials Identification System
 NFPA : National Fire Protection Association
 NIOSH : National Institute for Occupational Safety and Health
 OSHA : Occupational Safety and Health Administration
 PMRA : Health Canada Pest Management Regulatory Agency
 RTK : Right to Know
 WHMIS : Workplace Hazardous Materials Information System