



# Material Safety Data Sheet

The Dow Chemical Company

**Product Name:** NORKOOL(TM) Inhibitor 234

**Issue Date:** 07/18/2007

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The Dow Chemical Company encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

## 1. Product and Company Identification

**Product Name**

NORKOOL(TM) Inhibitor 234

**COMPANY IDENTIFICATION**

The Dow Chemical Company  
2030 Willard H. Dow Center  
Midland, MI 48674  
USA

Customer Information Number: 800-258-2436

**EMERGENCY TELEPHONE NUMBER**

**24-Hour Emergency Contact:** 989-636-4400

**Local Emergency Contact:** 989-636-4400

## 2. Hazards Identification

**Emergency Overview**

**Color:** Yellow

**Physical State:** Liquid

**Odor:** Mild

**Hazards of product:**

WARNING! Harmful or fatal if swallowed. Causes eye irritation. Causes skin irritation. Isolate area.

**OSHA Hazard Communication Standard**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Potential Health Effects**

**Eye Contact:** May cause moderate eye irritation. May cause moderate corneal injury. Vapor or mist may cause eye irritation.

**Skin Contact:** Brief contact may cause moderate skin irritation with local redness. Prolonged contact may cause severe skin irritation with local redness and discomfort. Repeated exposure may cause irritation, even a burn.

\* Indicates a Trademark

**Skin Absorption:** Prolonged skin contact is unlikely to result in absorption of harmful amounts. Repeated skin exposure to large quantities may result in absorption of harmful amounts. Massive contact with damaged skin or of material sufficiently hot to burn skin may result in absorption of potentially lethal amounts.

**Inhalation:** At room temperature, exposure to vapor is minimal due to low volatility. With good ventilation, single exposure is not expected to cause adverse effects. If material is heated or areas are poorly ventilated, vapor/mist may accumulate and cause respiratory irritation and symptoms such as headache and nausea.

**Ingestion:** Moderate toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause serious injury, even death. May cause nausea and vomiting. May cause abdominal discomfort or diarrhea. Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. May cause methemoglobinemia, thereby impairing the blood's ability to transport oxygen.

**Effects of Repeated Exposure:** Repeated excessive exposure may cause irritation of the upper respiratory tract. The data presented are for the following material: Ethylene glycol. In humans, effects have been reported on the following organs: Central nervous system. Observations in humans include: Nystagmus (involuntary eye movement). In animals, effects have been reported on the following organs: Kidney. Liver. The data presented are for the following material: Sodium nitrite. May cause methemoglobinemia, thereby impairing the blood's ability to transport oxygen. Effects have been reported on the following organs: Heart. Spleen. Gastrointestinal tract. Testes. In humans, symptoms may include: Central nervous system depression. May cause dizziness and drowsiness. Headache. Incoordination.

**Cancer Information:** Sodium nitrite has produced tumors in laboratory animals only at high doses; low dietary doses did not cause cancer in laboratory animals. It has caused tumors in animals when given in combination with secondary amines or disulfiram (for treatment of alcoholism). Persons on disulfiram (ANTABUSE) therapy with possible exposure to nitrites should seek medical advice.

**Birth Defects/Developmental Effects:** Based on animal studies, ingestion of very large amounts of ethylene glycol appears to be the major and possibly only route of exposure to produce birth defects. Exposures by inhalation or skin contact, the primary routes of occupational exposure, had minimal effect on the fetus, in animal studies. The data presented are for the following material: Sodium nitrite. Has been toxic to the fetus in lab animals at doses toxic to the mother.

**Reproductive Effects:** Ingestion of large amounts of ethylene glycol has been shown to interfere with reproduction in animals.

### 3. Composition Information

Component	CAS #	Amount
Ethylene glycol	107-21-1	>= 30.0 - <= 40.0 %
Water	7732-18-5	>= 35.0 - <= 45.0 %
Sodium nitrite	7632-00-0	>= 10.0 - <= 20.0 %
Sodium tolyltriazole	64665-57-2	>= 1.0 - <= 5.0 %

### 4. First-aid measures

**Eye Contact:** Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist.

**Skin Contact:** Immediately flush skin with water while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Contaminated leather items such as shoes should be disposed of properly.

**Inhalation:** Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

**Ingestion:** Do not induce vomiting. Seek medical attention immediately. If person is fully conscious give 1 cup or 8 ounces (240 ml) of water. If medical advice is delayed and if an adult has swallowed several ounces of chemical, then give 3-4 ounces (1/3-1/2 Cup) (90-120 ml) of hard liquor such as 80

proof whiskey. For children, give proportionally less liquor at a dose of 0.3 ounce (1 1/2 tsp.) (8 ml) liquor for each 10 pounds of body weight, or 2 ml per kg body weight [e.g., 1.2 ounce (2 1/3 tbsp.) for a 40 pound child or 36 ml for an 18 kg child].

**Notes to Physician:** If several ounces (60 - 100 ml) of ethylene glycol have been ingested, early administration of ethanol may counter the toxic effects (metabolic acidosis, renal damage). Consider hemodialysis or peritoneal dialysis & thiamine 100 mg plus pyridoxine 50 mg intravenously every 6 hours. If ethanol is used, a therapeutically effective blood concentration in the range of 100 - 150 mg/dl may be achieved by a rapid loading dose followed by a continuous intravenous infusion. Consult standard literature for details of treatment. 4-Methyl pyrazole (Antizol®) is an effective blocker of alcohol dehydrogenase and should be used in the treatment of ethylene glycol (EG), di- or triethylene glycol (DEG, TEG), ethylene glycol butyl ether (EGBE), or methanol intoxication if available. Fomepizole protocol (Brent, J. et al., New England Journal of Medicine, Feb. 8, 2001, 344:6, p. 424-9): loading dose 15 mg/kg intravenously, follow by bolus dose of 10 mg/kg every 12 hours; after 48 hours, increase bolus dose to 15 mg/kg every 12 hours. Continue fomepizole until serum methanol, EG, DEG, TEG or EGBE are undetectable. The signs and symptoms of poisoning include anion gap metabolic acidosis, CNS depression, renal tubular injury, and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Maintain adequate ventilation and oxygenation of the patient. In severe poisoning, respiratory support with mechanical ventilation and positive end expiratory pressure may be required. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Administer 100% oxygen to relieve headache and a general sense of weakness. Determine methemoglobin concentration of blood every 3 to 6 hours for first 24 hours. It should return to normal within 24 hours. The treatment of toxic methemoglobinemia may include the intravenous administration of methylene blue. If methemoglobin >10-20% consider methylene blue 1-2 mg/kg body weight as 1% solution intravenously over 5 minutes followed by 15-30 cc flush (Price D, Methemoglobinemia, Goldfrank Toxicologic Emergencies, 5th ed., 1994). Also provide 100% oxygen. If burn is present, treat as any thermal burn, after decontamination. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

**Medical Conditions Aggravated by Exposure:** Methemoglobinemia may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemia.

## 5. Fire Fighting Measures

**Extinguishing Media:** To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam.

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam.

**Special Protective Equipment for Firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

**Unusual Fire and Explosion Hazards:** This material will not burn until the water has evaporated. Residue can burn.

**Hazardous Combustion Products:** Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to: Nitrogen-containing compounds. Carbon monoxide. Carbon dioxide. Ammonia.

## 6. Accidental Release Measures

**Steps to be Taken if Material is Released or Spilled:** Small spills: Absorb with materials such as: Cat litter. Sawdust. Vermiculite. Zorb-all®. Collect in suitable and properly labeled containers. Large

spills: Dike area to contain spill. Recover spilled material if possible. Contain spilled material if possible. See Section 13, Disposal Considerations, for additional information.

**Personal Precautions:** Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to Section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**Environmental Precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

## 7. Handling and Storage

### Handling

**General Handling:** Do not swallow. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

### Storage

Additional storage and handling information on this product may be obtained by calling your Dow sales or customer service contact. Ask for a product brochure. See Section 10 for more specific information.

## 8. Exposure Controls / Personal Protection

### Exposure Limits

Component	List	Type	Value
Ethylene glycol	ACGIH	Ceiling Aerosol.	100 mg/m3

### Personal Protection

**Eye/Face Protection:** Use chemical goggles. If exposure causes eye discomfort, use a full-face respirator.

**Skin Protection:** Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. When handling hot material, protect skin from thermal burns as well as from skin absorption.

**Hand protection:** Use gloves chemically resistant to this material. Use gloves with insulation for thermal protection, when needed. Examples of preferred glove barrier materials include: Natural rubber ("latex"). Polyethylene. Neoprene. Polyvinyl chloride ("PVC" or "vinyl"). Nitrile/butadiene rubber ("nitrile" or "NBR"). Ethyl vinyl alcohol laminate ("EVAL"). Avoid gloves made of: Polyvinyl alcohol ("PVA"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Respiratory Protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, if material is heated or sprayed, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

**Ingestion:** Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

**Engineering Controls**

**Ventilation:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

## 9. Physical and Chemical Properties

<b>Physical State</b>	Liquid
<b>Color</b>	Yellow
<b>Odor</b>	Mild
<b>Flash Point - Closed Cup</b>	No test data available
<b>Flammable Limits In Air</b>	<b>Lower:</b> No test data available <b>Upper:</b> No test data available
<b>Autoignition Temperature</b>	No test data available
<b>Vapor Pressure</b>	9.7 mmHg @ 20 °C
<b>Boiling Point (760 mmHg)</b>	114.2 °C (237.6 °F) <i>Literature</i> .
<b>Vapor Density (air = 1)</b>	1.28 <i>Literature</i>
<b>Specific Gravity (H2O = 1)</b>	1.175 20 °C/20 °C <i>Literature</i>
<b>Freezing Point</b>	< -40 °C (< -40 °F)
<b>Melting Point</b>	No test data available
<b>Solubility in Water (by weight)</b>	100 %
<b>pH</b>	10.5
<b>Molecular Weight</b>	Not applicable
<b>Evaporation Rate (Butyl Acetate = 1)</b>	0.67 <i>Literature</i>
<b>Percent Volatiles</b>	No test data available
<b>Particle Size</b>	Not applicable
<b>Saturated Vapor Concentration</b>	Not applicable
<b>Volatile Organic Compounds</b>	No test data available

## 10. Stability and Reactivity

**Stability/Instability**

Thermally stable at recommended temperatures and pressures.

**Conditions to Avoid:** Some components of this product can decompose at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

**Incompatible Materials:** Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

**Hazardous Polymerization**

Will not occur.

**Thermal Decomposition**

Decomposition products depend upon temperature, air supply and the presence of other materials.

## 11. Toxicological Information

**Acute Toxicity****Ingestion**

Single dose oral LD50 has not been determined.

For ethylene glycol: Lethal Dose, Human, adult 3 Ounces

#### Skin Absorption

The dermal LD50 has not been determined.

#### Repeated Dose Toxicity

Repeated excessive exposure may cause irritation of the upper respiratory tract. The data presented are for the following material: Ethylene glycol. In humans, effects have been reported on the following organs: Central nervous system. Observations in humans include: Nystagmus (involuntary eye movement). In animals, effects have been reported on the following organs: Kidney. Liver. The data presented are for the following material: Sodium nitrite. May cause methemoglobinemia, thereby impairing the blood's ability to transport oxygen. Effects have been reported on the following organs: Heart. Spleen. Gastrointestinal tract. Testes. In humans, symptoms may include: Central nervous system depression. May cause dizziness and drowsiness. Headache. Incoordination.

#### Chronic Toxicity and Carcinogenicity

Sodium nitrite has produced tumors in laboratory animals only at high doses; low dietary doses did not cause cancer in laboratory animals. It has caused tumors in animals when given in combination with secondary amines or disulfiram (for treatment of alcoholism). Persons on disulfiram (ANTABUSE) therapy with possible exposure to nitrites should seek medical advice. Ethylene glycol did not cause cancer in long-term animal studies.

#### Developmental Toxicity

Based on animal studies, ingestion of very large amounts of ethylene glycol appears to be the major and possibly only route of exposure to produce birth defects. Exposures by inhalation or skin contact, the primary routes of occupational exposure, had minimal effect on the fetus, in animal studies. The data presented are for the following material: Sodium nitrite. Has been toxic to the fetus in lab animals at doses toxic to the mother. The data presented are for the following material: Sodium nitrite. Did not cause birth defects in laboratory animals.

#### Reproductive Toxicity

Ingestion of large amounts of ethylene glycol has been shown to interfere with reproduction in animals.

#### Genetic Toxicology

Contains component(s) which were negative in some in vitro genetic toxicity studies and positive in others. Genetic toxicity studies in animals were negative for component(s) tested.

## 12. Ecological Information

### CHEMICAL FATE

Data for Component: **Ethylene glycol**

#### Movement & Partitioning

Bioconcentration potential is low ( $BCF < 100$  or  $\log Pow < 3$ ). Potential for mobility in soil is very high ( $Koc$  between 0 and 50). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

**Henry's Law Constant (H):** 8.05E-09 atm\*m3/mole; 25 °C Estimated

**Partition coefficient, n-octanol/water (log Pow):** -1.36 Measured

**Partition coefficient, soil organic carbon/water (Koc):** 1 Estimated

**Distribution in Environment: Mackay Level 1 Fugacity Model:**

Air	Water.	Biota	Soil	Sediment
	98 %			

#### Persistence and Degradability

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

#### Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
8.32E-12 cm3/s	15 h	Estimated

#### OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
> 94 %	28 d	OECD 301F Test
90 %	1 d	OECD 302B Test

**Theoretical Oxygen Demand:** 1.29 mg/mg

Data for Component: **Sodium nitrite**

**Movement & Partitioning**

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3).

**Partition coefficient, n-octanol/water (log Pow):**

**Persistence and Degradability**

**Theoretical Oxygen Demand:** 0.23 mg/mg

**ECOTOXICITY**

Data for Component: **Ethylene glycol**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 >100 mg/L in the most sensitive species tested).

**Fish Acute & Prolonged Toxicity**

LC50, rainbow trout (*Oncorhynchus mykiss*), static, 96 h: 18,000 - 46,000 mg/l

**Aquatic Invertebrate Acute Toxicity**

LC50, water flea *Daphnia magna*, static, 48 h: 46,300 - 51,100 mg/l

**Aquatic Plant Toxicity**

EC50, green alga *Selenastrum capricornutum*, biomass growth inhibition, 96 h: 9,500 - 13,000 mg/l

**Toxicity to Micro-organisms**

EC50, OECD 209 Test; activated sludge, respiration inhibition, 30 min: 225 mg/l

Data for Component: **Sodium nitrite**

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

**Fish Acute & Prolonged Toxicity**

LC50, rainbow trout (*Oncorhynchus mykiss*), flow-through, 96 h: 0.19 - 0.39 mg/l

**Aquatic Invertebrate Acute Toxicity**

EC50, water flea *Daphnia magna*, 24 h, immobilization: 130 mg/l

## 13. Disposal Considerations

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. DOW HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Incinerator or other thermal destruction device. As a service to its customers, Dow can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone Dow's Customer Information Group at 1-800-258-2436 or 1-989-832-1556 (U.S.), or 1-800-331-6451 (Canada) for further details.

## 14. Transport Information

**DOT Non-Bulk**

NOT REGULATED

**DOT Bulk**

**Proper Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

**Technical Name:** CONTAINS SODIUM NITRITE, ETHYLENE GLYCOL

Hazard Class: 9 ID Number: UN3082 Packing Group: PG III

**IMDG**

NOT REGULATED

**ICAO/IATA**

NOT REGULATED

**Additional Information**

Reportable quantity: 500 lb – SODIUM NITRITE, 12,500 lb – ETHYLENE GLYCOL

*This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.*

<b>15. Regulatory Information</b>
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**OSHA Hazard Communication Standard**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312**

<b>Immediate (Acute) Health Hazard</b>	Yes
<b>Delayed (Chronic) Health Hazard</b>	Yes
<b>Fire Hazard</b>	No
<b>Reactive Hazard</b>	No
<b>Sudden Release of Pressure Hazard</b>	No

**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313**

This product contains the following substances which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and which are listed in 40 CFR 372.

<b>Component</b>	<b>CAS #</b>	<b>Amount</b>
Ethylene glycol	107-21-1	<= 40.0 %
Sodium nitrite	7632-00-0	<= 20.0 %

**Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:**

The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

<b>Component</b>	<b>CAS #</b>	<b>Amount</b>
Ethylene glycol	107-21-1	<= 40.0 %
Sodium nitrite	7632-00-0	<= 20.0 %

**Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:**

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

**California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)**

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

**US. Toxic Substances Control Act**

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

**CEPA - Domestic Substances List (DSL)**

All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

<b>16. Other Information</b>
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**Recommended Uses and Restrictions**

Intended as a heat transfer fluid for closed-loop systems. Dow recommends that you use this product in a manner consistent with the listed use. If your intended use is not consistent with Dow's stated use, please contact Dow's Customer Information Group.

**Revision**

Identification Number: 25516 / 1001 / Issue Date 07/18/2007 / Version: 3.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

**Legend**

N/A	Not available
W/W	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level
HAZ_DES	Hazard Designation
Action Level	A value set by OSHA that is lower than the PEL which will trigger the need for activities such as exposure monitoring and medical surveillance if exceeded.

*The Dow Chemical Company urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.*