

<b>PRODUCT NAME</b>	: Tornado
<b>SYNONYMS</b>	: DP TORNADO II
<b>PRODUCT USE</b>	: Laundry Detergent Additive
<b>SUPPLIER</b>	: United Formulas
<b>SUPPLIER'S ADDRESS</b>	: 601 6th St SW, Unit 5 Great Falls MT 59405 (406) 727-4144
<b>EMERGENCY RESPONSE PHONE</b>	: Infotrac: 1-800-535-5053



<b>GHS U.S. – CLASSIFICATION</b>	: H302	Harmful if swallowed.
	: H315	Causes skin irritation
	: H319	Causes serious eye irritation

## HAZARD PICTOGRAMS



<b>HAZARD STATEMENTS (GHS-US)</b>	:	H302	Harmful if swallowed.
	:	H315	Causes skin irritation.
	:	H319	Causes serious eye irritation.

OSHA HAZARDS	: Target Organ Effect (None)
TARGET ORGANS	: Kidney, Liver, Nerves (None).
CLASSIFICATION SYSTEM	: NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme.
NFPA RATINGS (SCALE 0-4)	: Health = 2, Fire = 0, Reactivity = 0

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**HMIS RATINGS (SCALE 0-5)** : Health = 2, Fire = 0, Reactivity = 0

### SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

**CHEMICAL CHARACTERISTIC** : Mixtures  
**DESCRIPTION** : Mixture of the substances listed below with nonhazardous additions.

COMPONENT	PERCENT	CAS #	EINECS #	GHS CLASSIFICATION
Monoethanolamine	1-5	141-43-5	200-659-6	Skin Corrosion Cat 1B
Propylene Glycol Butyl Ether	1-5	5131-66-8 & 18821-83-7	225-878-4	Skin Irritant Cat 2, Eye Irritant Cat 2A --
Ethylenediamine Tetraacetate Na salt	1-5	64-02-8	200-573-9	Skin Irritant Cat 2, Eye Damage Cat 2A
Sodium Dodecylbenzene Sulfonate	1-5	25155-30-0	246-680-4	Skin Irritant Cat 4, Eye Damage Cat 2 Acute Toxicity Cat 4, STOT SE Cat 3
Coconut Diethanolamide	1-5	68603-42-9	271-657-0	Skin Irritant Cat 2, Eye Irritant Cat 2B

Cat = Category, STOT-SE = Specific Target Organ Toxicity-Single Exposure.

### SECTION 4 – FIRST AID MEASURES

#### DESCRIPTION OF FIRST AID MEASURES

**GENERAL** : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. Show the label where possible.

**EYE CONTACT** : Immediately flush the eyes with water for at least 15 minutes. Hold eyelids open to ensure adequate flushing. Get immediate medical attention.

**SKIN CONTACT** : Remove contaminated clothing and shoes. Wash affected skin area with soap and water. Delayed skin damage is possible if the product is not completely washed off. Get immediate medical attention.

**SWALLOWING (INGESTION)** : If ingested, dilute swallowed material by drinking water. DO NOT INDUCE VOMITING. If vomiting occurs spontaneously, keep the airway clear. Give more water when vomiting stops. Never give anything by mouth to an unconscious person. Get immediate medical attention.

**INHALATION** : Remove to fresh air. Get immediate medical attention.

**OTHER INSTRUCTIONS** : Rescue personnel must wear appropriate protective equipment during removal of victims from contaminated areas. Treat symptomatically and supportively.

### SECTION 5 – FIRE FIGHTING MEASURES

**EXTINGUISHING MEDIA** : Dry chemical, foam, water, or carbon dioxide.

**SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS** : In the event of a fire, wear a NIOSH (USA) or CEN (EU) approved, positive pressure, self-contained breathing apparatus (SCUBA) and full protective clothing. Evacuate all non-essential personnel from the danger area.

**UNUSUAL FIRE AND EXPLOSION HAZARDS** : No further relevant information is available.

### SECTION 6 – ACCIDENTAL RELEASE MEASURES

**PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT & EMERGENCY PROCEDURES** : Restrict access to keep out unauthorized or unprotected personnel. Wear protective equipment. Avoid inhalation and direct contact.

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- ENVIRONMENTAL PROCEDURES** : Keep spilled material away from sewage/drainage systems and waterways.
- METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN-UP** : All clean-up personnel must be properly trained. Confine the spill and remove incompatible materials and ignition sources. Ensure adequate ventilation. Secure the source of the leak if conditions are safe. Neutralize spill and collect using an appropriate absorbent material such as clay or vermiculite. Place waste in an appropriate container for disposal. Use care during clean-up to avoid exposure to the material and injury from broken containers.

#### SECTION 7 – HANDLING AND STORAGE

- PRECAUTIONS FOR SAFE HANDLING** : Use with adequate ventilation. Wear proper protective equipment. Do not mix with water or acids without proper dilution and agitation to prevent a potentially violent reaction.
- CONDITIONS FOR SAFE STORAGE** : Store in closed, properly labeled containers. Protect containers from heat, physical damage, ignition sources and incompatible materials. Have emergency equipment for fires and spills readily available.



#### SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

- TLV (THRESHOLD LIMIT VALUE)** : The TLV in section in section III is the ACGIH/TLV-TWA (threshold limit value/time weighted average concentration for an eight hour work day). The STEL is the short term exposure limit and the (Ceil) is the ceiling limit.

COMPONENT	OSHA PEL – TWA	ACGIH – TLV	ACGIH – STEL
Monoethanolamine	Not Established	Not Established	Not Established
Propylene Glycol Butyl Ether	Not Established	Not Established	Not Established
Ethylenediamine Tetraacetate	Not Established	Not Established	Not Established
Sodium Dodecylbenzene Sulfonate	Not Established	Not Established	Not Established
Coconut Diethanolamide	Not Established	Not Established	Not Established

- EYE PROTECTION** : Wear chemical splash goggles or face shield.
- SKIN PROTECTION** : Minimize contact with product. Wear chemical resistant coveralls, boots, gloves, apron and/or suitable long-sleeved clothing.
- RESPIRATORY PROTECTION** : In case of brief exposure use respiratory filter device. In case of intensive or longer exposure, use respiratory protective device that is independent of circulating air.
- VENTILATION** : Ensure adequate ventilation.
- ADDITIONAL MEASURES** : Emergency eyewash and safety shower facilities should be available in the immediate work area.
- REQUIRED WORK/HYGIENE** : Wash hands thoroughly after handling. Keep away from all food stuff, beverages, and feed. Do not eat, drink, or smoke in work area.

#### SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

- APPEARANCE** : Blue Liquid
- ODOR** : Mild odor
- ODOR THRESHOLD** : Not available
- PH** : 11.5 - 12.5
- MELTING POINT/FREEZING POINT** : Not available

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<b>BOILING POINT</b>	: Approx. 212° F.
<b>FLASH POINT</b>	: Nonflammable, Noncombustible
<b>EVAPORATION RATE</b>	: Not available
<b>FLAMMABILITY</b>	: Nonflammable, Noncombustible
<b>LOWER FLAMMABILITY LIMIT</b>	: Not available
<b>UPPER FLAMMABILITY LIMIT</b>	: Not available
<b>VAPOR PRESSURE</b>	: Not available
<b>VAPOR DENSITY (AIR=1)</b>	: Not available
<b>RELATIVE DENSITY</b>	: 1.01
<b>SOLUBILITY IN WATER</b>	: Soluble in water
<b>PARTITION COEFFICIENT n- OCTANOL/WATER</b>	: Not available
<b>AUTOIGNITION TEMPERATURE</b>	: Not available
<b>DECOMPOSITION TEMPERATURE</b>	: Not available

#### SECTION 10 – STABILITY AND REACTIVITY

<b>STABILITY</b>	: Stable under recommended storage conditions.
<b>HAZARDOUS CONDITIONS TO AVOID</b>	: No decomposition if used according to specifications
<b>INCOMPATIBLE MATERIALS</b>	: Keep away from strong acids.
<b>HAZARDOUS DECOMPOSITION PRODUCTS</b>	: No dangerous decomposition products known.

#### SECTION 11 – TOXICOLOGICAL INFORMATION

<b>TOXICOLOGICAL INFORMATION</b>	: <b>Monoethanolamine</b>
<b>ACUTE TOXICITY</b>	: LD50 rat (oral): 1,515 mg/kg, LC50 rat (by inhalation): > 1.3 mg/l 6 h (IRT) The European Union (EU) has classified this substance as 'harmful'. The vapor was tested. LD50 rabbit (dermal): 2,504 mg/kg (OECD Guideline 402)
<b>TOXICOLOGICAL INFORMATION</b>	: <b>Propylene Glycol Butyl Ether</b>
<b>ACUTE TOXICITY</b>	: LD 50 Rat: 2,200 mg/kg
<b>ACUTE INHALATION TOXICITY</b>	: No data available
<b>ACUTE DERMAL TOXICITY</b>	: LD 50 Rabbit: 3,100 mg/kg
<b>TOXICOLOGICAL INFORMATION</b>	: <b>Ethylenediamine Tetraacetate</b>
<b>ACUTE TOXICITY</b>	: LD50 Oral (rat): 630 - 1,260 mg/kg,
<b>INHALATION LC50</b>	: No data available
<b>DERMAL LD50</b>	: No data available
<b>OTHER INFORMATION ON ACUTE TOXICITY</b>	: No data available
<b>TOXICOLOGICAL INFORMATION</b>	: <b>Sodium Dodecylbenzene Sulfonate</b>
<b>ACUTE TOXICITY</b>	: LD50 Oral rat: 438 mg/kg.
<b>INHALATION TOXICITY</b>	: No data available
<b>DERMAL TOXICITY</b>	: No data available
<b>SKIN CORROSION/IRRITATION</b>	: Skin – rabbit Result: Skin irritation - 24 h
<b>SERIOUS EYE DAMAGE/IRRITATION</b>	: Eyes – rabbit Result: Severe eye irritation - 24 h
<b>RESPIRATORY/SKIN SENSITISATION</b>	: No data available
<b>GERM CELL MUTAGENICITY</b>	: No data available

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<b>CARCINOGENICITY</b>	: No components of this product present at levels greater than or equal to 0.1% are identified as probable, possible, or confirmed human carcinogen by IARC ACGIH, NTP or OSHA.
<b>TOXICOLOGICAL INFORMATION</b>	: <b>Coconut Diethanolamide</b>
<b>ACUTE TOXICITY</b>	: LD50 Oral (rat): > 5,000 mg/kg, LD50 Dermal (rabbit): > 2000 mg/kg.
<b>ACUTE EFFECTS</b>	: May be harmful in contact with skin.
<b>CHRONIC EFFECTS</b>	: Hazardous by OSHA criteria. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. May cause damage to organs through prolonged or repeated exposure.
<b>SYMPTOMS AND TARGET ORGANS</b>	: Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain

#### SECTION 12 – ECOLOGICAL INFORMATION

<b>ECOLOGICAL INFORMATION</b>	: <b>Monoethanolamine</b>
<b>ECOTOXICITY (TOXICITY TO FISH)</b>	: LC50 (96 h) 349 mg/l, Cyprinus Carpio. LC50 (96 h) 170 mg/l, Carassius auratus.
<b>ECOTOXICITY (AQUATIC INVERTEBRATES)</b>	: EC50 (48 h) 65 mg/l, Daphnia magna.
<b>ECOTOXICITY (AQUATIC PLANTS)</b>	: EC50 (72 h) 2.5 mg/l (growth rate), Selenastrum capricornutum. EC50 (72 h) 22 mg/l (growth rate), Scenedesmus subspicatus.
<b>ECOTOXICITY: (EFFECT ON ACTIVATED SLUDGE)</b>	: EC20 (0.5 h) > 1,000 mg/l, activated sludge, domestic.
<b>ECOLOGICAL INFORMATION</b>	: <b>Propylene Glycol Butyl Ether</b>
<b>ECOTOXICITY: TOXICITY TO FISH</b>	: No data available
<b>TOXICITY TO DAPHNIA</b>	: No data available
<b>TOXICITY TO ALGAE</b>	: No data available
<b>TOXICITY TO BACTERIA</b>	: No data available
<b>ECOLOGICAL INFORMATION</b>	: <b>Ethylenediamine Tetraacetate</b>
<b>ECOTOXICITY</b>	: No data available.
<b>PERSISTENCE AND DEGRADABILITY</b>	: No data available.
<b>BIOACCUMULATIVE POTENTIAL</b>	: No data available.
<b>ECOLOGICAL INFORMATION</b>	: <b>Sodium Dodecylbenzene Sulfonate</b>
<b>TOXICITY TO FISH</b>	: Mortality NOEC - Oncorhynchus kisutch - 3.1 mg/l - 3 d Mortality LOEC - Oncorhynchus kisutch - 5.6 mg/l - 3 d LC50 - Oncorhynchus mykiss (rainbow trout) - 3.2 - 5.6 mg/l - 96 h
<b>ECOLOGICAL INFORMATION</b>	: <b>Coconut Diethanolamide</b>
<b>ACUTE TOXICITY</b>	: LC50 Algae: < 10 mg/l 72 hours, LC50 Daphnia: < 10 mg/l 48 hours, LC50 Fish: < 10 mg/l 96 hours
<b>PERSISTENCE AND DEGRADABILITY</b>	: Readily biodegradable
<b>BIOACCUMULATIVE POTENTIAL</b>	: No data available.

#### SECTION 13 – DISPOSAL CONSIDERATIONS

<b>WASTE DISPOSAL</b>	: This product must be disposed of in accordance with Federal, state, and local environmental regulations. Discarded materials may be considered hazardous waste due to pH/corrosivity. It is the responsibility of the product user to determine
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at the time of disposal whether a material containing, or derived from this product, should be classified as a hazardous waste.

### SECTION 14 – TRANSPORTATION INFORMATION

DOT/IMDG/ IATA PROPER SHIPPING NAME : Not Hazardous  
HAZARD CLASS AND LABEL : Not Applicable.  
UN NUMBER : Not Applicable.  
PACKAGING GROUP : Not Applicable.  
EPA REPORTABLE QUANTITY (RQ) : Not Applicable.  
MARINE POLLUTANT : Not listed.  
EMERGENCY RESPONSE GUIDE : Not Applicable.

### SECTION 15 – REGULATORY INFORMATION

**U.N. GHS CLASSIFICATION & LABELING INFORMATION:** See Section 2 for GHS Hazard Information

**U.S. FEDERAL REGULATORY INFORMATION:**

LISTED CARCINOGEN : Not listed.  
TSCA STATUS : The ingredients of this product are listed in TSCA inventory (40CFR 710.)  
SARA SECTION 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.  
SARA SECTION 312 : Chronic health hazard (Glycol Ether DPM).  
SARA SECTION 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.  
NFPA HEALTH : 2  
NFPA FLAMMABILITY : 0  
NFPA REACTIVITY : 0

**CANADIAN REGULATORY INFORMATION:**

WHMIS CATEGORY : D2B: Materials that cause other toxic effects (TOXIC).  
DOMESTIC SUBSTANCES LIST (DSL) : Listed  
INGREDIENT DISCLOSURE LIST : Listed



### SECTION 16 – OTHER INFORMATION

**DISCLAIMER** : The information contained herein has been compiled from sources believed to be reliable and accurate to the best of our knowledge at this date. It is provided without warranty, expressed or implied, as to the results of use of this information or to the product to which it relates. Such Group Int. assumes no responsibility for injury to any person or property resulting from any use of the material. Each user assumes the risk in their use of this product and should review the data and recommendations in the specific context of their intended use.

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act.  
EINECS : European Inventory of Existing Commercial Chemical Substances  
IMDG : International Maritime Code for Dangerous Goods  
IARC : International Agency for Research on Cancer  
IATA : International Air Transportation Association  
ACGIH : American Conference of Governmental Industrial Hygienists

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<b>NFPA</b>	:	National Fire Protection Association (USA)
<b>NTP</b>	:	National Toxicology Program
<b>SARA</b>	:	Superfund Amendments and Reauthorization Act
<b>TSCA</b>	:	Toxic Substances Control Act
<b>HMIS</b>	:	Hazardous Materials Identification System (USA)
<b>WHMIS</b>	:	Workplace Hazardous Materials Information System
<b>LC50</b>	:	Lethal concentration, 50 percent
<b>LD50</b>	:	Lethal dose, 50 percent
<b>STOT</b>	:	Systemic Target Organ Toxicity
<b>DATE PREPARED</b>	:	DEC 29, 2018
<b>DATE REVISED</b>	:	SEP 25, 2025