

Safety Data Sheet

Tornado Plus

SECTION 1- PRODUCT IDENTIFICATION

PRODUCT NAME Tornado Plus
SYNONYMS CLEAN & BRIGHT (LAUNDRY DETERGENT)
PRODUCT USE Laundry Detergent and Break
SUPPLIER United Formulas
SUPPLIER'S ADDRESS 601 6th St SW Unit 5, Great Falls, MT 59404
 (406) 727-4144
EMERGENCY RESPONSE PHONE Infotrac: 1 800-535-5053



SECTION 2 – HAZARD IDENTIFICATION

GHS – US CLASSIFICATION : H290 Metal corrosion Category 1
 : H314 Skin Corrosion Category 1B
 : H318 Serious Eye Damage Category 1B
 : H412 Aquatic Acute Category 3

HAZARD PICTOGRAMS :



SIGNAL WORD : **DANGER**

GHS LABEL ELEMENTS : The product is classified and labeled according to the Globally Harmonized System (GHS).

GHS PHYSICAL HAZARDS : H290 May be corrosive to metals.
 : H314 Causes severe skin burns and eye damage.
 : H318 Causes serious eye damage.
 : H412 Harmful to aquatic life with long lasting effects.

GHS PRECAUTIONARY HAZARDS : P101 If medical advice is needed, have product container or label at hand.
 : P102 Keep out of reach of children.
 : P103 Read label before use.
 : P260 Do not breathe dust/fume/gas/mist/vapors/spray.
 : P264 Wash skin and contaminated clothing thoroughly after handling.
 : P270 Do not eat, drink, or smoke when using this product.
 : P280 Wear suitable protective gloves / protective clothing / eye protection / face protection.
 : P301+P330 IF SWALLOWED. Rinse mouth. Do NOT induce vomiting.
 +P331
 : P303+P361 IF ON SKIN (or hair): Remove/Take off immediately all contaminated
 +P353 clothing. Rinse skin with water/shower.
 : P305+P351 IF IN EYES: Rinse cautiously with water for several minutes. Remove
 +P338 contact lenses, if present and easy to do. Continue rinsing.
 : P305+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position.
 : P310 Immediately call a POISON CENTER or doctor/physician.
 : P330 Rinse mouth if ingested.
 : P405 Store locked up.
 : P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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
HMIS ratings (scale 0-5): : Health = 2, Fire = 0, Reactivity = 0

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SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

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

COMPONENT	PERCENT	CAS #	EC #	GHS CLASS
Potassium Hydroxide	10-20	1310-58-3	215-181-3	Metal Corrosion Cat 1, Skin Corrosion Cat 1B Eye Damage Cat 1, Acute Toxic (Oral) Cat 4
Disodium Cocamphoprodipionate	1-5	68604-71-7	271-704-5	Eye Damage Cat 1, Acute Toxic Cat 4 STOT-SE: Cat 1
Tetrapotassium Pyrophosphate	5-10	7320-34-5	230-785-7	Not Established
Laurydimethylamine Oxide		1643-20-5	216-700-6	Eye Irritant Cat 2B
Ethylenediamine Tetraacetate Na Salt	0.1-1.0	64-02-8	200-573-9	Eye Dam Cat 1, Acute Tox (Oral) Cat4 Acute Aquatic Cat 2, Acute Tox (Inhalation) Cat4

Cat. = Category, STOT SE = Single Target Organ Toxicity Single exposure.

SECTION 4 – FIRST AID MEASURES

EYE CONTACT : Immediately flush the eyes with water for at least 15 minutes. Hold eyelids open to ensure adequate flushing. Remove contact lenses, if present and easy to do so. Continue rinsing. Immediate call a POISON CENTER or doctor/physician.

SKIN CONTACT : Remove contaminated clothing and shoes. Wash affected skin area with water for at least 15 minutes. Delayed skin damage is possible if the product is not completely washed off. Get immediate medical attention. Wash contaminated clothing before reuse.

SWALLOWING (INGESTION) : If ingested, dilute swallowed material by drinking water. DO NOT INDUCE VOMITING. Never give anything by mouth to an unconscious person. Immediate call a POISON CENTER or doctor/physician.

INHALATION : When symptoms occur, go into open air and ventilate suspected area. Remove victim(s) to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER/doctor/physician.

GENERAL MEASURES : Never give anything by mouth to an unconscious person. 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 FIREFIGHTER : 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 AND EMERGENCY PROCEDURES : Restrict access to keep out unauthorized or unprotected personnel. Wear protective equipment. Avoid inhalation and direct contact.

ENVIRONMENTAL PRECAUTIONS : Keep spilled material away from sewage/drainage systems and waterways. This product contains a U.S. EPA Reportable Quantity (RQ) substance. If amounts exceeding the Reportable Quantity are released, notification of the National Response Center (800) 424-8802 is required. See section15 for more information.

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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-Ceiling	ACGIH – STEL
Potassium Hydroxide	2 mg/m ³ (Ceiling)	2mg/m ³	2mg/m ³ (Ceiling)
Disodium Cocamphodipropionate	Not Established	Not Established	Not Established
Tetrapotassium Pyrophosphate	Not Established	Not Established	Not Established
Laurydimethylamine Oxide	Not Established	Not Established	Not Established
Ethylenediamine Tetraacetate Na Salt	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 : Clear blue liquid with mild odor.

ODOR : Mild odor

ODOR THRESHOLD : Not available

PH : > 12.0 AS IS

MELTING POINT/FREEZING POINT : Not available

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BOILING POINT	:	Not available
FLASHPOINT	:	Nonflammable, noncombustible
EVAPORATION RATE	:	Not available
FLAMMABILITY	:	Not applicable
LOWER FLAMMABILITY LIMIT	:	Not applicable
UPPER FLAMMABILITY LIMIT	:	Not applicable
VAPOR PRESSURE	:	Not available
VAPOR DENSITY (AIR=1)	:	Not available
RELATIVE DENSITY	:	1.22
SOLUBILITY IN WATER	:	Soluble in water
PARTITION COEFFICIENT n- OCTANOL/WATER	:	Not available
AUTOIGNITION TEMPERATURE	:	Not available
DECOMPOSITION TEMPERATURE	:	Not available

SECTION 10 – STABILITY AND REACTIVITY

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

SECTION 11 – TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION	:	Potassium Hydroxide
ACUTE TOXICITY	:	LD50 Oral (rat): 214 mg/kg, LD50 Dermal: Not Determined. LC50 Inhalation: Not determined. When in solution, this material will affect all tissues with which it comes in contact. The severity of the tissue damage is a function of its concentration, the length of tissue contact time, and local tissue conditions. After exposure there may be a time delay before irritation and other effects occur. This material is a strong irritant and is corrosive to the skin, eyes, and mucous membranes. This material may cause severe burns and permanent damage to any tissue with which it comes into contact.
CARCINOGENICITY	:	This product is not classified as a carcinogen by NTP, IARC or OSHA.
TOXICOLOGICAL INFORMATION	:	Disodium Cocamphodipropionate
ACUTE TOXICITY-ORAL LD50	:	Acute Tox. 4 – H302 Harmful if swallowed. ATE oral: 2,000 mg/kg)
ACUTE TOXICITY-DERMAL LD50	:	Based on available data the classification criteria are not met. ATE dermal: 6,000 mg/kg.
ACUTE TOXICITY-INHALATION LC50	:	Based on available data, the classification criteria are not met. ATE inhalation (vapors): 60 mg/l
SKIN CORROSION/IRRITATION SERIOUS EYE DAMAGE/IRRITATION	:	Based on available data, the classification criteria are not met. Eye Dam. 1 – H318 Causes serious eye damage.
RESPIRATORY SENSITISATION	:	Based on available data, the classification criteria are not met.
SKIN SENSITISATION	:	Based on available data, the classification criteria are not met.
GERM CELL MUTAGENICITY	:	Based on available data, the classification criteria are not met.
CARCINOGENICITY / IARC	:	Based on available data, the classification criteria are not met. / None of the ingredients are listed or exempt.
REPRODUCTIVE TOXICITY STOT-SE	:	Based on available data, the classification criteria are not met. Specific Target Organ Toxicity – Single Exposure: Cat 2 – H371 May cause damage

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to organs.

TOXICOLOGICAL INFORMATION	:	Tetrapotassium Pyrophosphate
ACUTE TOXICITY	:	Oral - rat LD50: > 2980 mg/kg; slightly toxic Dermal - rabbit LD50: > 7940 mg/kg; practically nontoxic Eye Irritation - rabbit: 11.1/110.0; moderately irritating Skin Irritation - rabbit: 0.5/8.0 (24-hr exposure); practically nonirritating.
TOXICOLOGICAL INFORMATION	:	Lauryldimethylamine Oxide
ACUTE TOXICITY	:	LD50 Oral (Rat): >2000mg/kg, Skin (rabbit): Moderate to severe irritant, Eyes (rabbit): Severe irritant.
FURTHER INFORMATION	:	The information given is based on data on the components and the toxicology of similar products. No data is available on the product itself.
TOXICOLOGICAL INFORMATION	:	Ethylenediamine Tetraacetate
ACUTE TOXICITY	:	LD50 Oral (rat): 630 - 1,260 mg/kg,
INHALATION LC50	:	No data available
DERMAL LD50	:	No data available
OTHER INFORMATION ON ACUTE TOXICITY	:	No data available

SECTION 12 – ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION	:	Potassium Hydroxide
AQUATIC TOXICITY	:	This material is alkaline and may raise the pH of surface waters with low buffering capacity. This material has exhibited moderate toxicity to aquatic organisms.
FRESHWATER FISH TOXICITY	:	LC50 (Mosquito fish): 80 mg/L/96 hr. (static bioassay in fresh water at 18-19 C) LC50 (Fathead Minnow): 179 mg/L/96 hr. (static at 22.3-24.7 C)
INVERTEBRATE TOXICITY	:	EC50 (Daphnia magna): 60 mg/L/48 hr. (static bioassay at 20.3-20.7 C)
FATE & TRANSPORT	:	This material will disassociate into ionic form in the aquatic environment. Natural carbon dioxide will slowly neutralize this material.
BIODEGRADATION	:	This material does not bio-concentrate.
BIOCONCENTRATION	:	This material does not bio-concentrate.
ADDITIONAL ECOLOGICAL INFORMATION	:	This material has exhibited slight toxicity to terrestrial organisms.
ECOLOGICAL INFORMATION	:	Disodium Cocamphodiprionate
ECTOXICITY	:	Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.
TOXICITY	:	Based on available data, the classification criteria are not met.
PERSISTENCE AND DEGRADABILITY	:	The degradability of the product is not known.
MOBILITY IN SOIL	:	No data available.
BIOACCUMULATION	:	No data available on bioaccumulation.
OTHER ADVERSE EFFECTS	:	None known.
ECOLOGICAL INFORMATION	:	Tetrapotassium Pyrophosphate
ECOTOXICITY	:	48-hr EC50 Daphnia magna: > 100 mg/l, Practically Nontoxic 96-hr LC50 Mysid Shrimp > 100 mg/l, Practically Nontoxic 96-hr LC50 Rainbow trout: > 100 mg/l, Practically Nontoxic.
ENVIRONMENTAL FATE	:	Phosphates: Inorganic phosphates, including this product, at high concentrations in the environment have the potential to cause eutrophication in aquatic systems. This condition is characterized by excessive algal growth, and subsequent decreases in oxygen levels. In general, proper use and disposal of this product should pose no adverse ecological risk.

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ECOLOGICAL INFORMATION	Lauryldimethylamine Oxide
ECOTOXICITY (Aquatic Toxicity):	: LC50 Species: Brachydanio rerio (zebra fish) Concentration: 10,00 - 100,00 mg/l Exposure time: 96 h.
TOXICITY TO DAPHNIA / AQUATIC INVERTEBRATES	: Immobilization EC50 Species: Daphnia magna (Water flea) Concentration: 4,40 mg/l Exposure time: 48 h.
BIODEGRADATION	: This material is subject to biodegradation.
PERSISTENCE	: This material is believed to persist in the environment.
BIOCONCENTRATION	: This material is not expected to bio-concentrate in organisms.
ECOLOGICAL INFORMATION	: Ethylenediamine Tetraacetate
ECOTOXICITY	: No data available.
PERSISTENCE AND DEGRADABILITY	: No data available.
BIOACCUMULATIVE POTENTIAL	: No data available.

SECTION 13 – DISPOSAL CONSIDERATIONS

WASTE DISPOSAL	: 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 at the time of disposal whether a material containing, or derived from this product, should be classified as a hazardous waste
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SECTION 14 – TRANSPORTATION INFORMATION

DOT/IMDG/ IATA PROPER SHIPPING NAME	: UN1814 POTASSIUM HYDROXIDE, SOLUTION 8, PGII
HAZARD CLASS AND LABEL	: 8 (Corrosive)
UN NUMBER	: UN1814
PACKAGING GROUP	: PGII
EPA REPORTABLE QUANTITY (RQ)	: 1000 LBS. (454 KG) as Potassium Hydroxide 100%.
MARINE POLLUTANT	: Not listed.
EMERGENCY RESPONSE GUIDE	: ERG-154



SECTION 15 – REGULATORY INFORMATION

U.S. FEDERAL REGULATORY INFORMATION:	
LISTED CARCINOGEN	: Not listed
TSC STATUS	: The ingredients of this product are listed on TSCA (Toxic Substances Control Act) inventory (40CFR 710.)
SARA SECTION 302	: EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355, APPENDIX A): No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA SECTION 311 HAZARD CATEGORIES (40 CFR 370):	: Immediate (acute) health hazard. (None).
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

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CANADIAN REGULATORY INFORMATION

WHMIS CATEGORY : Class E: Corrosive, Potassium Hydroxide
D1B: Poisonous and infectious material: Immediate and serious effects (TOXIC). Potassium Hydroxide



DOMESTIC SUBSTANCES LIST (DSL) : Listed

INGREDIENT DISCLOSURE LIST : Listed, this product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the sds contains all the information required by the CPR.

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. Wesmar Co. 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

NFPA : National Fire Protection Association (USA)

NTP : National Toxicology Program

SARA : Superfund Amendments and Reauthorization Act

TSCA : Toxic Substances Control Act

HMIS : Hazardous Materials Identification System (USA)

WHMIS : Workplace Hazardous Materials Information System

LC50 : Lethal concentration, 50 percent

LD50 : Lethal dose, 50 percent

STOT : Systemic Target Organ Toxicity

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