

TORNADO

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Product name : TORNADO
Product code : P232

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : LAUNDRY DETERGENT

1.3. Details of the supplier of the safety data sheet

CleanPak Products LLC.
221 Hobbs Street Suite 108
Tampa, FL 33619
T 813-740-8611 - F 813-740-8218
admin@cleanpakproducts.com - www.cleanpakproducts.com

1.4. Emergency telephone number

Emergency number : 1-800-535-5053
InfoTrac

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. Label elements

GHS-US labelling

No labelling applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	GHS-US classification
dodecylbenzenesulphonic acid	(CAS No) 27176-87-0	10 - 20	Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314 Aquatic Acute 2, H401
2-butoxyethanol	(CAS No) 111-76-2	1 - 5	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapour), H331 Skin Irrit. 2, H315 Eye Irrit. 2A, H319
sodium hydroxide, conc=50%, aqueous solution	(CAS No) 1310-73-2	1 - 5	Skin Corr. 1A, H314

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove the victim into fresh air.
First-aid measures after skin contact : Rinse with water.
First-aid measures after eye contact : Immediately rinse with water for a prolonged period while holding the eyelids wide open.
First-aid measures after ingestion : Drink plenty of water.

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4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

No additional information available

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

For containment : Plug the leak, cut off the supply.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

No additional information available

7.2. Conditions for safe storage, including any incompatibilities

Maximum storage period : > 2 year

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

TORNADO		
ACGIH	Not applicable	
OSHA	Not applicable	
dodecylbenzenesulphonic acid (27176-87-0)		
ACGIH	Not applicable	
OSHA	Not applicable	
sodium hydroxide, conc=50%, aqueous solution (1310-73-2)		
ACGIH	Not applicable	
OSHA	Not applicable	
2-butoxyethanol (111-76-2)		
ACGIH	ACGIH TWA (ppm)	20 ppm
ACGIH	ACGIH STEL (ppm)	20 ppm
OSHA	Not applicable	

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8.2. Exposure controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
Personal protective equipment : Gloves. Safety glasses.



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Liquid
Colour : Blue
Odour : Fresh n Clean
Odour threshold : No data available
pH : 13
Relative evaporation rate (butylacetate=1) : No data available
Melting point : No data available
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : No data available
Vapour pressure : No data available
Relative vapour density at 20 °C : No data available
Specific gravity : 1.035
Solubility : Soluble in water.
Water: Solubility in water of component(s) of the mixture :
• nonylphenoxypoly(ethyleneoxy)ethanol: soluble • 2-butoxyethanol: Complete • sodium hydroxide, conc=50%, aqueous solution: Complete • edetic acid: 0.05 g/100ml
Log Pow : No data available
Log Kow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidising properties : No data available
Explosive limits : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong acids. Oxidizing agent.

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10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

dodecylbenzenesulphonic acid (27176-87-0)	
LD50 oral rat	650 mg/kg (Rat; Literature study)
ATE US (oral)	650.000 mg/kg bodyweight
2-butoxyethanol (111-76-2)	
LD50 oral rat	530 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; 1746 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rat	> 2000 mg/kg bodyweight (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)
LD50 dermal rabbit	435 mg/kg bodyweight (Rabbit; Experimental value; OECD 402: Acute Dermal Toxicity; 435 mg/kg bodyweight; Rabbit; Weight of evidence; Equivalent or similar to OECD 402)
LC50 inhalation rat (mg/l)	2.17 mg/l/4h (Rat; Experimental value; 2.35 mg/l/4h; Rat; Experimental value)
LC50 inhalation rat (ppm)	450-486,Rat; Weight of evidence
ATE US (oral)	530.000 mg/kg bodyweight
ATE US (dermal)	435.000 mg/kg bodyweight
ATE US (vapours)	2.170 mg/l/4h
ATE US (dust,mist)	2.170 mg/l/4h
Skin corrosion/irritation	: Not classified pH: 13
Serious eye damage/irritation	: Not classified pH: 13
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

2-butoxyethanol (111-76-2)	
IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

dodecylbenzenesulphonic acid (27176-87-0)	
LC50 fishes 1	3.2 - 5.6 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	1 - 10 mg/l (48 h; Daphnia magna; GLP)
LC50 fish 2	3.5 - 10 mg/l (96 h; Brachydanio rerio)
EC50 Daphnia 2	5.88 mg/l (48 h; Daphnia magna)
TLM fish 1	4.2 - 5.6,96 h; Lepomis macrochirus; Soft water
TLM fish 2	4.2 - 5.6,96 h; Pimephales promelas; Soft water
Threshold limit algae 1	29 mg/l (96 h; Selenastrum capricornutum)
Threshold limit algae 2	127.9 mg/l (72 h; Scenedesmus subspicatus; GLP)
2-butoxyethanol (111-76-2)	
LC50 fishes 1	116 ppm (96 h; Cyprinodon variegatus; Nominal concentration)
EC50 Daphnia 1	1700 mg/l (48 h; Daphnia sp.; Nominal concentration)
LC50 fish 2	1341 ppm (96 h; Lepomis macrochirus)
EC50 Daphnia 2	1720 mg/l (24 h; Daphnia magna)
TLM fish 1	100 - 1000,96 h; Pisces
TLM other aquatic organisms 1	100 - 1000,96 h

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dodecylbenzenesulphonic acid (27176-87-0)	
Threshold limit algae 1	900 mg/l (168 h; Scenedesmus quadricauda)
Threshold limit algae 2	35 mg/l (192 h; Microcystis aeruginosa)

12.2. Persistence and degradability

dodecylbenzenesulphonic acid (27176-87-0)	
Persistence and degradability	Readily biodegradable in water. Low potential for adsorption in soil.
Chemical oxygen demand (COD)	2.41 g O ₂ /g substance
sodium hydroxide, conc=50%, aqueous solution (1310-73-2)	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the components available.
2-butoxyethanol (111-76-2)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Photodegradation in the air.
Biochemical oxygen demand (BOD)	0.71 g O ₂ /g substance
Chemical oxygen demand (COD)	2.20 g O ₂ /g substance
ThOD	2.305 g O ₂ /g substance
BOD (% of ThOD)	0.31 % ThOD

12.3. Bioaccumulative potential

dodecylbenzenesulphonic acid (27176-87-0)	
BCF fish 1	108 - 551 (Pisces)
BCF fish 2	130 (72 h; Leuciscus idus)
BCF other aquatic organisms 1	140 (120 h; Bacteria)
BCF other aquatic organisms 2	60 (24 h; Chlorophyta)
Log Pow	1.96
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
sodium hydroxide, conc=50%, aqueous solution (1310-73-2)	
Bioaccumulative potential	Does not contain bioaccumulative component(s).
2-butoxyethanol (111-76-2)	
Log Pow	0.81 (Experimental value; BASF test; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

dodecylbenzenesulphonic acid (27176-87-0)	
Surface tension	35 N/m (25 °C; 800 mg/l)
2-butoxyethanol (111-76-2)	
Surface tension	0.027 N/m (25 °C)

12.5. Other adverse effects

Effect on ozone layer :
Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : May be discharged to wastewater treatment installation.

SECTION 14: Transport information

In accordance with DOT
Transport document description : UN1824 Sodium hydroxide solution, 8, III
UN-No.(DOT) : UN1824
Proper Shipping Name (DOT) : Sodium hydroxide solution
Department of Transportation (DOT) Hazard Classes : 8 - Class 8 - Corrosive material 49 CFR 173.136

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Hazard labels (DOT) : 8 - Corrosive



Packing group (DOT) : III - Minor Danger

DOT Special Provisions (49 CFR 172.102) : IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).

N34 - Aluminum construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material.

T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)

TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / (1 + a (tr - tf))$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

DOT Packaging Exceptions (49 CFR 173.xxx) : 154

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 241

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

DOT Vessel Stowage Other : 52 - Stow "separated from" acids

Additional information

Other information : No supplementary information available.

ADR

No additional information available

Transport by sea

UN-No. (IMDG) : 1824

Proper Shipping Name (IMDG) : SODIUM HYDROXIDE SOLUTION

Class (IMDG) : 8 - Corrosive substances

Packing group (IMDG) : III - substances presenting low danger

Air transport

UN-No.(IATA) : 1824

Proper Shipping Name (IATA) : SODIUM HYDROXIDE SOLUTION

Class (IATA) : 8 - Corrosives

Packing group (IATA) : III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

2-butoxyethanol (111-76-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

EU-Regulations

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Classification according to Regulation (EC) No. 1272/2008 [CLP]

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

15.2.2. National regulations

No additional information available

15.3. US State regulations

2-butoxyethanol (111-76-2)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Full text of H-phrases:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 2	Hazardous to the aquatic environment — Acute Hazard, Category 2
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Flam. Liq. 4	Flammable liquids, Category 4
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H227	Combustible liquid
H302	Harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H319	Causes serious eye irritation
H331	Toxic if inhaled
H401	Toxic to aquatic life

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product