

# Safety Data Sheet:

According to EC Regulation 1907/2006/EC - revision 453/2010 (REACH)

Print Date 03/13/2015

Creation Date 01/08/2015

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## SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

### 1.1. Product identifier

Product Name TORNADO  
Product Code EP\_X006G X1 (CLP)

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

Recommended use  
Floor Cleaning Solution.

### 1.3. Details of the supplier of the safety data sheet

NCH Distribution s.r.o.  
Průmyslová 1190  
410 02 Lovosice  
Czech Republic  
Tel.: +420 416 429 111

E-mail address chemcz@nch.com  
Website address www.flexfill.cz

### 1.4. Emergency telephone number

01902 510401 (available during Office Hours)

## SECTION 2. HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 (CLP/GHS) and its adaptations

Skin corrosion: Category 1B  
H314 - Causes severe skin burns and eye damage.

#### Classification according to EU Directive 67/548EEC - 1999/45 EC

C - Corrosive  
R34 - Causes burns

### 2.2. Label elements

#### Labelling according to Regulation (EC) No 1272/2008 (CLP/GHS)

Contains 2-AMINOETHANOL

#### Hazard pictograms



Signal Word Danger

#### Hazard Statements

H314 - Causes severe skin burns and eye damage.

**Precautionary Statements**

P260 - Do not breathe vapors.

P280 - Wear protective gloves/protective clothing/eye protection.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P301+ P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 - Immediately call a POISON CENTER or doctor.

For industrial and institutional use only.

Keep out of reach of children.

(SDS ONLY)

P363 - Wash contaminated clothing before reuse

P501 - Dispose of contents/container in accordance with local regulation

**2.3. Other hazards**

No additional hazards identified

The components in this formulation do not meet the criteria for classification as PBT or vPvB. As defined under the regulation EC 1907/2006.

**SECTION 3. COMPOSITION / INFORMATION OF INGREDIENTS**

**3.2. Mixture**

Component	CAS-No	EC No.	EU - REACH Reg Number	Weight %	Classification	EU - GHS/CLP	Notes
2-AMINOETHANOL	141-43-5	205-483-3	01-2119486455-28	10 - < 20	Xn; R20/21/22 C; R34	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Corr. 1B (H314)	
TRISODIUM NITRILOTRIACETATE (TRISODIUM NTA (INCI))	5064-31-3	225-768-6	01-2119519239-36	1 - < 3	Xn; R22 Xi; R36 Carc.Cat.3; R40	Acute Tox. 4 (H302) Eye Irrit. 2 (H319) Carc. 2 (H351)	
ISOPROPYL ALCOHOL	67-63-0	200-661-7	01-2119457558-25	< 0.3	F; R11 Xi; R36 R67	Flam. Liq. 2 (H225) STOT SE 3 (H336) Eye Irrit. 2 (H319)	

This mixture contains substances with a Community workplace exposure limit. For any H statements and R phrases mentioned in this section, see the full text in section 16. The GHS/CLP classification for substances are listed once they have been harmonised according to the REACH Regulation No 1907 / 2006.

**SECTION 4. FIRST AID MEASURES**

**4.1. Description of first aid measures**

General advice

Do not breathe vapors or spray mist. Do not get in eyes, on skin or on clothing.

Eye Contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Skin Contact

Wash affected areas with plenty of soap and water for several minutes. Seek medical attention if irritation develops.

Ingestion

Never give anything by mouth to an unconscious person. Drink 1 or 2 glasses of water. If swallowed, seek medical advice and show the container or label.

Inhalation

Move to fresh air. If not breathing, give artificial respiration. Get medical attention immediately. If exposed to high concentrations of the vapours / mists, move to fresh air.

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

Sensitization

No information available.

Eye contact

May cause burns which could lead to permanent eye damage.

Skin contact

May cause burns on prolonged or repeated exposure.

Ingestion

May cause gastrointestinal irritation seen as nausea, vomiting and diarrhoea.

Inhalation

Inhalation may result in irritation or burns to the respiratory tract.

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

Notes to physician

Treat symptomatically. May cause burns of eyes, skin and mucous membranes.

**SECTION 5. FIRE-FIGHTING MEASURES**

**5.1. Extinguishing media**

Suitable Extinguishing Media

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

**5.2. Special hazards arising from the substance or mixture**

Thermal decomposition can lead to release of irritating gases and vapors. Sodium oxides. Material can create slippery conditions.

**5.3. Advice for firefighters**

Firefighters should wear a self-contained breathing apparatus and full protective gear.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

**6.1. Personal precautions, protective equipment and emergency procedures**

Avoid contact with skin, eyes, and clothing. Use personal protective equipment. Refer to protective measures listed in sections 7 and 8. Prevent further leakage or spillage if safe to do so. Material can create slippery conditions. Ventilate the area.

**6.2. Environmental precautions**

Avoid release of neat product into surface water and sanitary sewage system.

**6.3. Methods and material for containment and cleaning up**

Methods for Containment

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

Methods for Cleaning up

Neutralise with an acidic solution. Clean preferably with a detergent, do not use solvents. Soak up with inert absorbent material.

**6.4. Reference to other sections**

Refer to sections 7, 8 and 13

**SECTION 7. HANDLING AND STORAGE**

**7.1. Precautions for safe handling**

Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Do not eat, drink or smoke when using this product. Training : Due to the hazardous nature of this product, training in its use is recommended. Ensure adequate ventilation.

**7.2. Conditions for safe storage, including any incompatibilities**

Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. . . .

**7.3. Specific end use(s)**

No information available

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1. Control parameters**

Exposure limits

If vapours, fumes or mists are generated, their concentration in the workplace area should be kept to the lowest reasonable level. For substances.

Component	European Union	The United Kingdom	France	Germany	Austria
2-AMINOETHANOL	TWA: 1 ppm TWA: 2.5 mg/m <sup>3</sup> STEL: 3 ppm STEL: 7.6 mg/m <sup>3</sup> Skin	STEL: 3 ppm STEL: 7.6 mg/m <sup>3</sup> TWA: 1 ppm TWA: 2.5 mg/m <sup>3</sup> Skin	TWA: 1 ppm TWA: 2.5 mg/m <sup>3</sup> STEL: 3 ppm STEL: 7.6 mg/m <sup>3</sup> Skin	AGW: 2ppm AGW: 5.1mg/m <sup>3</sup> Peak: 4ppm Peak: 10.2mg/m <sup>3</sup> TWA: 2ppm TWA: 5.1mg/m <sup>3</sup>	Skin STEL: 3 ppm STEL: 7.6 mg/m <sup>3</sup> TWA: 1 ppm TWA: 2.5 mg/m <sup>3</sup>
ISOPROPYL ALCOHOL		STEL: 500 ppm STEL: 1250 mg/m <sup>3</sup> TWA: 400 ppm TWA: 999 mg/m <sup>3</sup>	STEL: 400 ppm STEL: 980 mg/m <sup>3</sup>	AGW: 200ppm AGW: 500mg/m <sup>3</sup> Peak: 400ppm Peak: 1000mg/m <sup>3</sup> TWA: 200ppm TWA: 500mg/m <sup>3</sup> BGW: 25mg/L	STEL: 800 ppm STEL: 2000 mg/m <sup>3</sup> TWA: 200 ppm TWA: 500 mg/m <sup>3</sup>

Component	Spain	Portugal	Italy	The Netherlands	Switzerland
2-AMINOETHANOL	Skin STEL: 3 ppm STEL: 7.5 mg/m <sup>3</sup> TWA: 1 ppm TWA: 2.5 mg/m <sup>3</sup>	STEL: 3 ppm STEL: 7.6 mg/m <sup>3</sup> TWA: 1 ppm TWA: 2.5 mg/m <sup>3</sup> Skin	TWA: 1 ppm TWA: 2.5 mg/m <sup>3</sup> STEL: 3 ppm STEL: 7.6 mg/m <sup>3</sup> Skin	Skin STEL: 7.6 mg/m <sup>3</sup> TWA: 2.5 mg/m <sup>3</sup>	STEL: 4 ppm STEL: 10 mg/m <sup>3</sup> TWA: 2 ppm TWA: 5 mg/m <sup>3</sup>
ISOPROPYL ALCOHOL	STEL: 400 ppm STEL: 1000 mg/m <sup>3</sup> TWA: 200 ppm TWA: 500 mg/m <sup>3</sup>	STEL: 400 ppm TWA: 200 ppm			STEL: 400 ppm STEL: 1000 mg/m <sup>3</sup> TWA: 200 ppm TWA: 500 mg/m <sup>3</sup>

Component	Denmark	Finland	Norway	Sweden	Czech
2-AMINOETHANOL	TWA: 1 ppm TWA: 2.5 mg/m <sup>3</sup> Skin	TWA: 1 ppm TWA: 2.5 mg/m <sup>3</sup> STEL: 3 ppm STEL: 7.6 mg/m <sup>3</sup> Skin	TWA: 1 ppm TWA: 2.5 mg/m <sup>3</sup> Skin	3 ppm 8 mg/m <sup>3</sup>	PEL: 2.5mg/m <sup>3</sup> NPK-P: 7.5mg/m <sup>3</sup>
ISOPROPYL ALCOHOL	TWA: 200 ppm TWA: 490 mg/m <sup>3</sup>	TWA: 200 ppm TWA: 500 mg/m <sup>3</sup> STEL: 250 ppm STEL: 620 mg/m <sup>3</sup>	TWA: 100 ppm TWA: 245 mg/m <sup>3</sup>	150 ppm 350 mg/m <sup>3</sup>	PEL: 500mg/m <sup>3</sup> NPK-P: 1000mg/m <sup>3</sup>

**8.2. Exposure controls**

Control parameters

Provide an eyewash station. Provide washing facilities.

Engineering Measures

Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Use personal protection equipment as per Directive 89/686/EEC

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit. Conforming to EN 141 eg AP2/P3 filters.

Hand Protection

Wear suitable protective gloves conforming to EN 374. Type of gloves suggested :. Short term use eg occasional contact or splash protection;. Nitrile rubber (0.4 mm). Long term use eg: continuous wear or immersion;. Solvent-resistant gloves (butyl-rubber). Fluorinated rubber. Breakthrough time of the glove material (protective index 6, breakthrough time: >480 min). Suitability and durability of a glove is dependent upon usage factors such as frequency, duration of use, temperature and chemical resistance. The use of a chemical-protective glove may in practice be much shorter than the permeation time determined through testing. For break through times, refer to glove manufacturers recommendations.

Skin Protection

Body protection must be chosen based on activity and possible exposure, e.g. footwear (solid shoes, rubber boots), rubber apron, long-sleeved work clothing, impervious suit.

Eye Protection

Safety glasses with side-shields. Approved to EN 166. For large volumes, faceshields should be used.

General Hygiene Considerations

Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

Information below relates to typical values and does not constitute a specification

Appearance	Clear Colorless	Specific Gravity	1.064
Physical State	Liquid	Solubility	Soluble in water
Odor	No information available	Autoignition Temperature	No information available.
pH	12.5	Viscosity	Fluid
Melting Point/Range	No information available	Explosive properties	No information available
Boiling Point/Range	No information available	Oxidizing Properties	No information available
Flash Point	No information available	VOC Content (%)	17.1
Evaporation Rate	No information available		
Flammability Limits in Air %:	No information available		
Vapor Pressure	No information available		
Vapor Density	No information available		

### 9.2. Other information

No other information available

## SECTION 10. STABILITY AND REACTIVITY

### 10.1. Reactivity

Not considered as highly reactive. See further information below.

### 10.2. Chemical stability

Stable under normal conditions

### 10.3. Possibility of hazardous reactions

The mixture itself will not dangerously react or polymerise to create hazardous conditions in normal use

### 10.4. Conditions to avoid

No conditions to be specially mentioned

### 10.5. Incompatible materials

Strong acids.

### 10.6. Hazardous decomposition products

None under normal storage conditions and use.

Thermal decomposition can lead to release of irritating gases and vapors. Sodium oxides.

## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### Product Information

The product itself has not been tested

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
2-AMINOETHANOL	= 1720 mg/kg ( Rat )	= 1 mL/kg ( Rabbit ) = 1000 mg/kg ( Rabbit )	
TRISODIUM NITRILOTRIACETATE (TRISODIUM NTA (INCI))	= 920 mg/kg ( Rat )		> 5 mg/L ( Rat ) 4 h
ISOPROPYL ALCOHOL	= 1870 mg/kg ( Rat )	= 4059 mg/kg ( Rabbit )	= 72600 mg/m <sup>3</sup> ( Rat ) 4 h

#### Sensitization

No information available.

#### Skin contact

May cause burns on prolonged or repeated exposure.

#### Inhalation

Inhalation may result in irritation or burns to the respiratory tract.

#### Ingestion

May cause gastrointestinal irritation seen as nausea, vomiting and diarrhoea.

#### Eye contact

May cause burns which could lead to permanent eye damage.

Carcinogenicity

Contains substance(s) with limited evidence of carcinogenic effects below the level for classification.

Mutagenic Effects

There are no known mutagenic substances in this product.

Reproductive Effects

There are no known substances in this product with effects on reproduction

**SECTION 12. ECOLOGICAL INFORMATION**

**12.1. Toxicity**

Product Information

The product itself has not been tested.

**Ecotoxicity effects**

pH values above 10.5 may be fatal to fish and other aquatic organisms.

Component	Toxicity to Fish	Water Flea	Toxicity to Algae
2-AMINOETHANOL	LC50 114 - 196 mg/L Oncorhynchus mykiss 96 h LC50 300 - 1000 mg/L Lepomis macrochirus 96 h LC50 = 227 mg/L Pimephales promelas 96 h LC50 = 3684 mg/L Brachydanio rerio 96 h LC50 > 200 mg/L Oncorhynchus mykiss 96 h	65: 48 h Daphnia magna mg/L EC50	EC50 = 15 mg/L Desmodesmus subspicatus 72 h
TRISODIUM NITRILOTRIACETATE (TRISODIUM NTA (INCI))	LC50 175 - 225 mg/L Lepomis macrochirus 96 h LC50 560 - 1000 mg/L Oryzias latipes 96 h LC50 560 - 1000 mg/L Poecilia reticulata 96 h LC50 72 - 133 mg/L Oncorhynchus mykiss 96 h LC50 93 - 170 mg/L Pimephales promelas 96 h LC50 = 114 mg/L Pimephales promelas 96 h LC50 = 252 mg/L Lepomis macrochirus 96 h LC50 = 470 mg/L Pimephales promelas 96 h	560 - 1000: 48 h Daphnia magna mg/L LC50	EC50 560 - 1000 mg/L Chlorella vulgaris 96 h
ISOPROPYL ALCOHOL	LC50 = 11130 mg/L Pimephales promelas 96 h LC50 = 9640 mg/L Pimephales promelas 96 h LC50 > 1400000 µg/L Lepomis macrochirus 96 h	= 13299 mg/L 48 h	EC50 > 1000 mg/L Desmodesmus subspicatus 72 h EC50 > 1000 mg/L Desmodesmus subspicatus 96 h

**12.2. Persistence and degradability**

The surfactant(s) contained in this mixture complies (comply) with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

**12.3. Bioaccumulative potential**

Component information below.

Component	log Pow
2-AMINOETHANOL	-1.91
ISOPROPYL ALCOHOL	0.05

**12.4. Mobility in soil**

Soluble in water.

**12.5. Results of PBT and vPvB assessment**

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**Product Code** EP\_X006G

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The components in this formulation do not meet the criteria for classification as PBT or vPvB. As defined under the regulation EC 1907/2006.

**12.6. Other adverse effects**

No data available.

**SECTION 13. DISPOSAL CONSIDERATIONS**

**13.1. Waste treatment methods**

Waste from Residues / Unused Products

The used product can be drained to sewage if it does not contain hazardous materials and the pH is neutral (typically 5.5 to 9).

Contaminated Packaging

Empty remaining contents. Empty containers should be taken for local recycling, recovery or waste disposal. Recycle according to official regulations.

EWC waste disposal No

The following EWC/ AVV waste codes may be applicable: . 07 06 01\* aqueous washing liquids and mother liquors. 20 01 29\* Detergents containing dangerous substances.

Other Information

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

**SECTION 14. TRANSPORT INFORMATION**

**14.1, 14.2, 14.3, 14.4.**

IMDG/IMO

<b>UN-No</b>	UN2491
<b>Proper Shipping Name</b>	Ethanolamine solution
<b>Hazard Class</b>	8
<b>Packing Group</b>	III
<b>EmS No.</b>	F-A, S-B

ADR / RID

<b>UN-No</b>	UN2491
<b>Hazard Class</b>	8
<b>Packing Group</b>	III
<b>Classification Code</b>	C7
<b>Limited Quantity</b>	5 L
<b>Transport Cat. (Tunnel Restriction Code)</b>	3 (E)

IATA/ICAO

<b>UN-No</b>	UN2491
<b>Hazard Class</b>	8
<b>Packing Group</b>	III
<b>ERG Code</b>	8L
<b>Shipping Description</b>	UN2491, Ethanolamine solution, 8, PG III

**14.5. Environmental hazards**

The mixture is not environmentally hazardous for transport.

**14.6. Special precautions for user**

No special precautions.

**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Packaged product, not typically transported in IBC's

**Additional information**

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport.

**SECTION 15. REGULATORY INFORMATION**

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

This mixture was classified in compliance with EC Regulation 1272/2008 (CLP) and its adaptations.

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The mixture is classified as hazardous in accordance with Directive 1999/45/EC. In addition, Directive 2009/2/EC with the 31st Adaptation of Directive 67/548/EEC (Hazardous substances) has been taken into account. This is a detergent product and complies with the Detergent Regulation (EC) No.648/2004.

**WGK Classification**

Weakly water-endangering (WGK 1), Classification according VwVwS

**Detergent labelling for contents (REGULATION (EC) No 648/2004 - 907/2006):**

< 5% NTA and salts thereof

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out for this mixture by the supplier

**SECTION 16. OTHER INFORMATION**

**Text of H statements mentioned in Section 3**

H225 - Highly flammable liquid and vapor. H302 - Harmful if swallowed. H312 - Harmful in contact with skin. H314 - Causes severe skin burns and eye damage. H319 - Causes serious eye irritation. H336 - May cause drowsiness or dizziness. H351 - Suspected of causing cancer.

**Text of R phrases mentioned in Section 3**

R11 - Highly flammable. R22 - Harmful if swallowed. R35 - Causes severe burns. R36 - Irritating to eyes. R40 - Limited evidence of a carcinogenic effect. R67 - Vapours may cause drowsiness and dizziness. R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed.

**Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]**

Calculation method. H314 - Causes severe skin burns and eye damage.

**Prepared By** Austen Pimm

**Creation Date** 01/08/2015

**Revision date** 01/08/2015

**Revision Summary**

CLP update.

**Abbreviations**

REACH: Registration Evaluation Authorisation Restriction of Chemicals

EU: European Union

EC: European community

EEC: European Economic Community

UN: United Nations

CAS: Chemical Abstracts Service

PBT: Persistent Bioaccumulative Toxic

vPvB: very Persistent very Bioaccumulative

LC50: Lethal concentration, 50 percent

LD50 : Lethal dose, 50 percent

EC50: Effective concentration, 50 percent

LogPow: LogP octanol/water

VwVwS: Verwaltungsvorschrift wassergefährdende Stoffe (Administrative order relating to substances hazardous to water - Germany)

WGK: Wassergefährdungsklasse (Water Hazard Class - Germany).

AVV: Abfallverzeichnis-Verordnung (Waste Code - Germany)

ADR: Accord européen relatif au transport international des marchandises Dangereuses par Route (European agreement governing the international carriage of dangerous goods by road)

IMDG: International Maritime Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations concerning the International carriage of Dangerous goods by rail)

EmS: Emergency Response Procedures for Ships Carrying Dangerous Goods

ERG: Emergency Response Guidebook

IUCLID / RTECS: International Uniform Chemical Information Database / Registry of Toxic Effects of Chemical Substances

GHS: Globally Harmonised System of classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

VOC: Volatile Organic Chemical

w/w: weight for weight

DMSO: Dimethyl sulphoxide

OECD: Organization for Economic Cooperation and Development

STEL: Short Term Exposure Limit

TWA: Time Weighted Average

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**Further Information**

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

Component test results displayed in sections 11 and 12 are typically supplied by Chemadvisor and assembled from publicly available literature sources e.g. IUCLID / RTECS.

**Disclaimer**

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text

**End of Safety Data Sheet**