SAFETY DATA SHEET

(REACH regulation (EC) n° 1907/2006 - n° 2015/830)

SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name : TORNADE 2D ORIGINAL

Product code : 10368 - 10369.

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

Cleaner and discaler.

Professional use.

1.3. Details of the supplier of the safety data sheet

Registered company name : IPC.

Address : 10 Quai Malbert.29200.BREST.FRANCE.

Telephone : +33 (0)2 98 43 45 44. Fax : .

ipc@ipc-sa.com

1.4. Emergency telephone number : +33 (0)1 45 42 59 59.

Association/Organisation : INRS / ORFILA http://www.centres-antipoison.net.

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

In compliance with EC regulation No. 1272/2008 and its amendments.

Flammable liquid, Category 3 (Flam. Liq. 3, H226).

Substance that is corrosive to metals, Category 1 (Met. Corr. 1, H290).

Skin corrosion, Category 1A (Skin Corr. 1A, H314).

Serious eye damage, Category 1 (Eye Dam. 1, H318).

This mixture does not present an environmental hazard. No known or foreseeable environmental damage under standard conditions of use.

2.2. Label elements

Detergent mixture (see section 15).

Mixture for spray application.

In compliance with EC regulation No. 1272/2008 and its amendments.

Hazard pictograms :

GHS05

GHS02

Signal Word :

DANGER

Product identifiers :

EC 201-196-2	LACTIC ACID
EC 231-633-2	PHOSPHORIC ACID
EC 201-180-5	GLYCOLIC ACID
EC 230-525-2	DIDECYLDIMETHYLAMMONIUM CHLORIDE

Hazard statements :

H226	Flammable liquid and vapour.
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.

Precautionary statements - Prevention :

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P234	Keep only in original packaging.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statements - Response :

P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
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, a doctor.
P390	Absorb spillage to prevent material damage.

Other information :

2.3. Other hazards

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC) >= 0.1% published by the European CHemicals Agency (ECHA) under article 57 of REACH: http://echa.europa.eu/fr/candidate-list-table

The mixture fulfils neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Composition :

Identification	(EC) 1272/2008	Note	%
INDEX: 79_33_4 CAS: 79-33-4 EC: 201-196-2 REACH: 01-2119474164-39 LACTIC ACID	GHS05, GHS07 Dgr Skin Irrit. 2, H315 Eye Dam. 1, H318		2.5 <= x % < 10
INDEX: 603_002_00_5 CAS: 64-17-5 EC: 200-578-6 REACH: 01-2119457610-43 ETHANOL	GHS07, GHS02 Dgr Flam. Liq. 2, H225 Eye Irrit. 2, H319	[1]	2.5 <= x % < 10
INDEX: 5949_29_1 CAS: 5949-29-1 EC: 201-069-1 REACH: 01-2119457026-42 CITRIC ACID MONOHYDRATE	GHS07 Wng Eye Irrit. 2, H319		2.5 <= x % < 10
INDEX: 603-096-00-8 CAS: 112-34-5 EC: 203-961-6 REACH: 01-2119475104-44 2-(2-BUTOXYETHOXY)ETHANOL	GHS07 Wng Eye Irrit. 2, H319	[1]	2.5 <= x % < 10
INDEX: 015_011_00_6 CAS: 7664-38-2 EC: 231-633-2 REACH: 01-2119485924-24 PHOSPHORIC ACID	GHS05 Dgr Met. Corr. 1, H290 Skin Corr. 1B, H314	B [1]	0 <= x % < 2.5
INDEX: 2809_21_4 CAS: 2809-21-4 EC: 220-552-8 REACH: 01-2119510391-53 DIPHOSPHONIC HYDROXYETHANE ACID	GHS05 Dgr Met. Corr. 1, H290 Eye Dam. 1, H318		0 <= x % < 2.5
INDEX: 79_14_1 CAS: 79-14-1 EC: 201-180-5 REACH: 01-2119485579-17 GLYCOLIC ACID	GHS07, GHS05 Dgr Met. Corr. 1, H290 Skin Corr. 1B, H314 Acute Tox. 4, H332		0 <= x % < 2.5

INDEX: 160875_66_1 CAS: 160875-66-1 2-PROPYLHEPTANOLETHOXILATE	GHS07, GHS05 Dgr Acute Tox. 4, H302 Eye Dam. 1, H318		0 <= x % < 2.5
INDEX: 612_131_00_6 CAS: 7173-51-5 EC: 230-525-2 DIDECYLDIMETHYLAMMONIUM CHLORIDE	GHS07, GHS05, GHS09 Dgr Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Aquatic Chronic 2, H411 Aquatic Acute 1, H400 M Acute = 10		0 <= x % < 2.5
INDEX: 931_292_6 EC: 931-292-6 AMINES, C12-14 (EVEN NUMBERED) -ALKYLDIMETHYL, N-OXIDES	GHS07, GHS05, GHS09 Dgr Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411 Aquatic Acute 1, H400 M Acute = 1		0 <= x % < 2.5
INDEX: 603-117-00-0 CAS: 67-63-0 EC: 200-661-7 REACH: 01-2119457558-25 PROPAN-2-OL	GHS02, GHS07 Dgr Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336	[1]	0 <= x % < 1
INDEX: I606002003 CAS: 78-93-3 EC: 201-159-0 2-BUTANONE	GHS07, GHS02 Dgr Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336	[1]	0 <= x % < 0.1
INDEX: 607-002-00-6 CAS: 64-19-7 EC: 200-580-7 REACH: 01-2119475328-30 ACETIC ACID	GHS02, GHS05 Dgr Flam. Liq. 3, H226 Skin Corr. 1A, H314	B [1]	0 <= x % < 0.1
INDEX: I128_37_0 CAS: 128-37-0 EC: 204-881-4 BUTYLATED HYDROXYTOLUENE	GHS09 Wng Aquatic Acute 1, H400 M Acute = 1 Aquatic Chronic 1, H410 M Chronic = 1	[1]	0 <= x % < 0.1
INDEX: 601-029-00-7 CAS: 5989-27-5 EC: 227-813-5 (R)-P-MENTHA-1,8-DIENE	GHS02, GHS07, GHS09 Wng Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Acute 1, H400 M Acute = 1 Aquatic Chronic 1, H410 M Chronic = 1	[1]	0 <= x % < 0.1

Information on ingredients :

[1] Substance for which maximum workplace exposure limits are available.

SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing by an unconscious person.

4.1. Description of first aid measures

In the event of exposure by inhalation :

In the event of massive inhalation, remove the person to fresh air and keep warm and at rest.

In the event of splashes or contact with eyes :

Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids open.

Regardless of the initial state, refer the patient to an ophthalmologist and show him the label.

In the event of splashes or contact with skin :

Remove any soiled or splashed clothing immediately.

Watch out for any remaining product between skin and clothing, watches, shoes, etc.

If the contaminated area is widespread and/or there is damage to the skin, a doctor must be consulted or the patient transferred to hospital.

In case of skin contact, rinse with plenty of water for at least 15 minutes. Contact a doctor.

In the event of swallowing :

Do not give the patient anything orally.

In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water and consult a doctor.

Keep the person exposed at rest. Do not force vomiting.

Seek medical attention immediately, showing the label.

If swallowed accidentally, call a doctor to ascertain whether observation and hospital care will be necessary. Show the label.

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

No data available.

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

No data available.

SECTION 5 : FIREFIGHTING MEASURES

Flammable.

Chemical powders, carbon dioxide and other extinguishing gas are suitable for small fires.

5.1. Extinguishing media

Keep packages near the fire cool, to prevent pressurised containers from bursting.

Suitable methods of extinction

In the event of a fire, use :

- sprayed water or water mist
- water with AFFF (Aqueous Film Forming Foam) additive
- halon
- foam
- multipurpose ABC powder
- BC powder
- carbon dioxide (CO2)

Prevent the effluent of fire-fighting measures from entering drains or waterways.

Unsuitable methods of extinction

In the event of a fire, do not use :

- water jet

5.2. Special hazards arising from the substance or mixture

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed :

- carbon monoxide (CO)
- carbon dioxide (CO2)

5.3. Advice for firefighters

Due to the toxicity of the gas emitted on thermal decomposition of the products, fire-fighting personnel are to be equipped with autonomous insulating breathing apparatus.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Consult the safety measures listed under headings 7 and 8.

For non first aid worker

Because of the organic solvents contained in the mixture, eliminate sources of ignition and ventilate the area.

Avoid any contact with the skin and eyes.

If a large quantity has been spilt, evacuate all personnel and only allow intervention by trained operators equipped with safety apparatus.

For first aid worker

First aid workers will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.

Prevent any material from entering drains or waterways.

6.3. Methods and material for containment and cleaning up

Neutralise with an alkaline decontaminant, such as an aqueous solution of sodium carbonate or similar.

If the ground is contaminated, once the product has been recovered by sponging with an inert and non-combustible absorbent material, wash the contaminated area in plenty of water.

Clean preferably with a detergent, do not use solvents.

6.4. Reference to other sections

No data available.

SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled.

7.1. Precautions for safe handling

Always wash hands after handling.

Remove and wash contaminated clothing before re-using.

Ensure that there is adequate ventilation, especially in confined areas.

Emergency showers and eye wash stations will be required in facilities where the mixture is handled constantly.

Fire prevention :

Handle in well-ventilated areas.

Vapours are heavier than air. They can spread along the ground and form mixtures that are explosive with air.

Prevent the formation of flammable or explosive concentrations in air and avoid vapor concentrations higher than the occupational exposure limits.

Prevent the accumulation of electrostatic charges with connections to earth.

The mixture can become electrostatically charged : always earth during decanting operations. Wear antistatic shoes and clothing and floors should be electrically conductive.

Use the mixture in premises free of naked flames or other sources of ignition and ensure that electrical equipment is suitably protected.

Keep packages tightly closed and away from sources of heat, sparks and naked flames.

Do not use tools which may produce sparks. Do not smoke.

Prevent access by unauthorised personnel.

Recommended equipment and procedures :

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

Where the personnel must carry out work in a booth, whether for spraying or otherwise, the ventilation may be inadequate to control particles and solvent vapors in every case.

It is therefore recommended that personnel wear masks with a compressed air supply during spraying operations until the concentration of particles and solvent vapors has fallen below the exposure limits.

Packages which have been opened must be reclosed carefully and stored in an upright position.

Prohibited equipment and procedures :

No smoking, eating or drinking in areas where the mixture is used.

7.2. Conditions for safe storage, including any incompatibilities

Keep out of the reach of children.

Storage

Keep the container tightly closed in a dry, well-ventilated place.

Keep away from all sources of ignition - do not smoke.

Keep well away from all sources of ignition, heat and direct sunlight.

Avoid accumulation of electrostatic charges.

The floor must be impermeable and form a collecting basin so that, in the event of an accidental spillage, the liquid cannot spread beyond this area.

Packaging

Always keep in packaging made of an identical material to the original.

7.3. Specific end use(s)

No data available.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits :

- European Union (2017/164/UE, 2009/161/UE, 2006/15/CE, 2000/39/CE, 98/24/CE)

CAS	VME-mg/m3 :	VME-ppm :	VLE-mg/m3 :	VLE-ppm :	Notes :
112-34-5	67.5	10	101.2	15	-
7664-38-2	1	-	2	-	-
78-93-3	600	200	900	300	-
64-19-7	25	10	50	20	-

- ACGIH TLV (American Conference of Governmental Industrial Hygienists, Threshold Limit Values, 2010) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5		1000 ppm		A3	
7664-38-2	1 mg/m3	3 mg/m3			
67-63-0	200 ppm	400 ppm		A4; BEI	
78-93-3	200 ppm	300 ppm		BEI	
64-19-7	10 ppm	15 ppm			
128-37-0	2 (IFV) mg/m3			A4	

- Germany - AGW (BAuA - TRGS 900, 07/06/2017) :

CAS	VME :	VME :	Excess	Notes
64-17-5		500 ppm 960 mg/m3		2(II)
112-34-5		10 ppm 67 mg/m3		1,5 (I)
7664-38-2		2 E mg/m3		2(I)
67-63-0		200 ppm 500 mg/m3		2(II)
78-93-3		200 ppm 600 mg/m3		1( )
64-19-7		10 ppm 25 mg/m3		2(I)
128-37-0		10 E mg/m3		4 (II)
5989-27-5		5 ppm 28 mg/m3		4(II)

- France (INRS - ED984 :2016) :

CAS	VME-ppm :	VME-mg/m3 :	VLE-ppm :	VLE-mg/m3 :	Notes :	TMP No :	
64-17-5	1000	1900	5000	9500	-	84	
112-34-5	10	67.5	15	101.2	-	-	
7664-38-2	0.2	1	0.5	2	-	-	-
67-63-0	-	-	400	980	-	84	
78-93-3	200	600	300	900	*	84	
64-19-7	-	-	10	25	-	-	
128-37-0	-	10	-	-	-	-	

- UK / WEL (Workplace exposure limits, EH40/2005, 2007) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	1000 ppm 1920 mg/m3				
7664-38-2	1 mg/m3	2 mg/m3			
67-63-0	400 ppm 999 mg/m3	500 ppm 1250 mg/m3			
78-93-3	200 ppm 600 mg/m3	300 ppm 899 mg/m3		SkBMGV	
128-37-0	10 mg/m3				

Derived no effect level (DNEL) or derived minimum effect level (DMEL):

PROPAN-2-OL (CAS: 67-63-0)

Final use:	**Workers.**
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	888 mg/kg body weight/day
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	500 mg of substance/m3
Final use:	**Consumers.**
Exposure method:	Ingestion.
Potential health effects:	Long term systemic effects.
DNEL :	26 mg/kg body weight/day
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	319 mg/kg body weight/day
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	89 mg of substance/m3

GLYCOLIC ACID (CAS: 79-14-1)

Final use:	**Workers.**
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	57.69 mg/kg body weight/day
Exposure method:	Inhalation.
Potential health effects:	Short term systemic effects.
DNEL :	9.2 mg of substance/m3
Exposure method:	Inhalation.
Potential health effects:	Short term local effects.
DNEL :	9.2 mg of substance/m3
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	10.56 mg of substance/m3
Exposure method:	Inhalation.
Potential health effects:	Long term local effects.
DNEL :	1.53 mg of substance/m3
Final use:	**Consumers.**
Exposure method:	Ingestion.
Potential health effects:	Long term systemic effects.
DNEL :	0.75 mg/kg body weight/day
Exposure method:	Dermal contact.
Potential health effects:	Short term local effects.
DNEL :	28.85 mg/kg body weight/day
Exposure method:	Inhalation.
Potential health effects:	Short term systemic effects.
DNEL :	2.3 mg of substance/m3
Exposure method:	Inhalation.

Potential health effects:	Short term local effects.
DNEL :	2.3 mg of substance/m3
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	2.6 mg of substance/m3

DIPHOSPHONIC HYDROXYETHANE ACID (CAS: 2809-21-4)

Final use:	**Workers.**
Exposure method:	Ingestion.
Potential health effects:	Long term systemic effects.
DNEL :	13 mg/kg body weight/day
Final use:	**Consumers.**
Exposure method:	Ingestion.
Potential health effects:	Long term systemic effects.
DNEL :	6.5 mg/kg body weight/day

PHOSPHORIC ACID ...% (CAS: 7664-38-2)

Final use:	**Workers.**
Exposure method:	Inhalation.
Potential health effects:	Long term local effects.
DNEL :	2.92 mg of substance/m3
Final use:	**Consumers.**
Exposure method:	Inhalation.
Potential health effects:	Long term local effects.
DNEL :	0.73 mg of substance/m3

ETHANOL (CAS: 64-17-5)

Final use:	**Workers.**
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	343 mg/kg body weight/day
Exposure method:	Inhalation.
Potential health effects:	Short term local effects.
DNEL :	1900 mg of substance/m3
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	950 mg of substance/m3
Final use:	**Consumers.**
Exposure method:	Ingestion.
Potential health effects:	Short term systemic effects.
DNEL :	87 mg/kg body weight/day
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	206 mg/kg body weight/day
Exposure method:	Inhalation.
Potential health effects:	Short term local effects.
DNEL :	950 mg of substance/m3
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.

DNEL : 114 mg of substance/m3

Predicted no effect concentration (PNEC):

PROPAN-2-OL (CAS: 67-63-0)

Environmental compartment: Soil.
PNEC : 28 mg/kg

Environmental compartment: Fresh water.
PNEC : 140.9 mg/l

Environmental compartment: Sea water.
PNEC : 140.9 mg/l

Environmental compartment: Intermittent waste water.
PNEC : 140.9 mg/l

Environmental compartment: Waste water treatment plant.
PNEC : 2251 mg/l

GLYCOLIC ACID (CAS: 79-14-1)

Environmental compartment: Soil.
PNEC : 0.007 mg/kg

Environmental compartment: Fresh water.
PNEC : 0.0321 mg/l

Environmental compartment: Sea water.
PNEC : 0.0031 mg/l

Environmental compartment: Intermittent waste water.
PNEC : 0.312 mg/l

Environmental compartment: Fresh water sediment.
PNEC : 0.115 mg/kg

Environmental compartment: Marine sediment.
PNEC : 0.0155 mg/kg

Environmental compartment: Waste water treatment plant.
PNEC : 7 mg/l

DIPHOSPHONIC HYDROXYETHANE ACID (CAS: 2809-21-4)

Environmental compartment: Soil.
PNEC : 96 mg/l

Environmental compartment: Fresh water.
PNEC : 0.136 mg/l

Environmental compartment: Sea water.
PNEC : 0.0136 mg/l

Environmental compartment: Fresh water sediment.
PNEC : 59 mg/kg

Environmental compartment: Marine sediment.
PNEC : 5.9 mg/kg

Environmental compartment: Waste water treatment plant.
PNEC : 20 mg/l

CITRIC ACID MONOHYDRATE (CAS: 5949-29-1)

Environmental compartment:	Soil.
PNEC :	33.1 mg/kg
Environmental compartment:	Fresh water.
PNEC :	0.44 mg/l
Environmental compartment:	Sea water.
PNEC :	0.044 mg/l
Environmental compartment:	Fresh water sediment.
PNEC :	3.46 mg/kg
Environmental compartment:	Marine sediment.
PNEC :	34.6 mg/kg

ETHANOL (CAS: 64-17-5)

Environmental compartment:	Soil.
PNEC :	0.63 mg/kg
Environmental compartment:	Fresh water.
PNEC :	0.96 mg/l
Environmental compartment:	Sea water.
PNEC :	0.79 mg/l
Environmental compartment:	Intermittent waste water.
PNEC :	2.75 mg/l
Environmental compartment:	Fresh water sediment.
PNEC :	3.6 mg/kg
Environmental compartment:	Marine sediment.
PNEC :	2.9 mg/kg
Environmental compartment:	Waste water treatment plant.
PNEC :	580 mg/l

8.2. Exposure controls

Personal protection measures, such as personal protective equipment

Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

- Eye / face protection

Avoid contact with eyes.

Use eye protectors designed to protect against liquid splashes

Before handling, wear safety goggles with protective sides accordance with standard EN166.

In the event of high danger, protect the face with a face shield.

When spraying, wear a face shield in accordance with standard EN166.

Prescription glasses are not considered as protection.

Individuals wearing contact lenses should wear prescription glasses during work where they may be exposed to irritant vapours.

Provide eyewash stations in facilities where the product is handled constantly.

- Hand protection

Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN374.

Gloves must be selected according to the application and duration of use at the workstation.

Protective gloves need to be selected according to their suitability for the workstation in question : other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.

Type of gloves recommended :

- Nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR))
- PVC (polyvinyl chloride)
- Butyl Rubber (Isobutylene-isoprene copolymer)

Recommended properties :

- Impervious gloves in accordance with standard EN374

- Body protection

Avoid skin contact.

Wear suitable protective clothing.

Suitable type of protective clothing :

Wear suitable protective clothing, in particular overalls and boots. These items must be kept in good condition and cleaned after use.

Suitable type of protective boots :

In the event of minor spatter, wear protective boots or half-boots against chemical risks in accordance with standard EN13832-2.

In the event of prolonged contact, wear boots or half-boots with liquid-chemical-resistant and waterproof soles and uppers in accordance with standard EN13832-3.

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled must be washed.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

General information :

Physical state :	Fluid liquid.
Colorless	
Odor : pleasantly scented	

Important health, safety and environmental information

pH :	1.00 . Strongly acidic.
Boiling point/boiling range :	Not specified.
Flash Point :	58.00 °C.
Vapour pressure (50°C) :	Not relevant.
Density :	1.04
Water solubility :	Soluble.
Melting point/melting range :	Not specified.
Self-ignition temperature :	Not specified.
Decomposition point/decomposition range :	Not specified.

9.2. Other information

No data available.

SECTION 10 : STABILITY AND REACTIVITY

10.1. Reactivity

Mixture which by chemical action can corrode and even destroy metals.

10.2. Chemical stability

This mixture is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions

When exposed to high temperatures, the mixture can release hazardous decomposition products, such as carbon monoxide and dioxide, fumes and nitrogen oxide.

10.4. Conditions to avoid

Any apparatus likely to produce a flame or to have a metallic surface at high temperature (burners, electric arcs, furnaces etc.) must not be allowed on the premises.

Avoid :

- accumulation of electrostatic charges.
- heating
- heat
- flames and hot surfaces
- frost

10.5. Incompatible materials

Keep away from :

- bases

10.6. Hazardous decomposition products

The thermal decomposition may release/form :

- carbon monoxide (CO)
- carbon dioxide (CO2)

SECTION 11 : TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

May cause irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis, following exposure for up to three minutes.

Corrosive reactions are typified by ulcers, bleeding, bloody scabs, and, by the end of observation at 14 days, by discolouration due to blanching of the skin, complete areas of alopecia, and scars.

11.1.1. Substances

Acute toxicity :

2-BUTANONE (CAS: 78-93-3)

Oral route :	LD50 = 4000 mg/kg
Inhalation route (n/a) :	LC50 = 34 mg/l

DIDECYLDIMETHYLAMMONIUM CHLORIDE (CAS: 7173-51-5)

Oral route :	LD50 = 658 mg/kg Species : Rat
Dermal route :	LD50 > 2000 mg/kg Species : Rat

2-PROPYLHEPTANOLETHOXILATE (CAS: 160875-66-1)

Oral route :	LD50 > 301 mg/kg Species : Rat
Dermal route :	LD50 > 2000 mg/kg

GLYCOLIC ACID (CAS: 79-14-1)

Oral route :	LD50 = 2040 mg/kg Species : Rat
Dermal route :	LD50 = 3.6 mg/kg Species : Rat
Inhalation route (n/a) :	LC50 > 5.2 mg/l Species : Rat

DIPHOSPHONIC HYDROXYETHANE ACID (CAS: 2809-21-4)

Oral route :	LD50 = 3130 mg/kg Species : Rat
Dermal route :	LD50 > 7940 mg/kg Species : Rabbit

PHOSPHORIC ACID ...% (CAS: 7664-38-2)

Oral route :	LD50 = 2600 mg/kg Species : Rat OECD Guideline 423 (Acute Oral toxicityAcute Toxic Class Method)
Dermal route :	LD50 = 2740 mg/kg

Species : Rabbit

CITRIC ACID MONOHYDRATE (CAS: 5949-29-1)

Oral route :	LD50 = 5400 mg/kg Species : Mouse
Dermal route :	LD50 > 2000 mg/kg

ETHANOL (CAS: 64-17-5)

Oral route :	LD50 = 10470 mg/kg Species : Rat OECD Guideline 401 (Acute Oral Toxicity)
Dermal route :	LD50 > 2000 mg/kg Species : Rabbit OECD Guideline 402 (Acute Dermal Toxicity)
Inhalation route (n/a) :	LC50 = 51 mg/l Species : Rat

LACTIC ACID (CAS: 79-33-4)

Oral route :	LD50 = 3750 mg/kg

11.1.2. Mixture

Skin corrosion/skin irritation :

Corrosive classification is based on an extreme pH value.

SECTION 12 : ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1. Substances

PHOSPHORIC ACID ...% (CAS: 7664-38-2)

Fish toxicity :	LC50 = 3 mg/l Species : Lepomis macrochirus Duration of exposure : 96 h

CITRIC ACID MONOHYDRATE (CAS: 5949-29-1)

Fish toxicity :	LC50 = 440 mg/l Duration of exposure : 48 h
Crustacean toxicity :	EC50 = 1535 mg/l Species : Daphnia magna Duration of exposure : 24 h

ETHANOL (CAS: 64-17-5)

Fish toxicity :	LC50 = 13000 mg/l Species : Oncorhynchus mykiss Duration of exposure : 96 h OECD Guideline 203 (Fish, Acute Toxicity Test)
Crustacean toxicity :	EC50 = 5012 mg/l Species : Ceriodaphnia dubia Duration of exposure : 48 h

AMINES, C12-14 (EVEN NUMBERED) -ALKYLDIMETHYL, N-OXIDES

Fish toxicity :	Duration of exposure : 96 h NOEC = 0.42 mg/l

Crustacean toxicity :	NOEC = 0.7 mg/l Species : Daphnia magna
Algae toxicity :	ECr50 = 0.19 mg/l Species : Pseudokirchnerella subcapitata Duration of exposure : 72 h
Aquatic plant toxicity :	Duration of exposure : 72 h NOEC = 0.067 mg/l

DIDECYLDIMETHYLAMMONIUM CHLORIDE (CAS: 7173-51-5)

Fish toxicity :	LC50 = 0.97 mg/l Factor M = 1 Species : Brachydanio rerio Duration of exposure : 96 h
Crustacean toxicity :	EC50 = 0.06 mg/l Species : Daphnia magna Duration of exposure : 48 h
Algae toxicity :	ECr50 = 0.12 mg/l Species : Scenedesmus capricornutum Duration of exposure : 72 h

12.1.2. Mixtures

No aquatic toxicity data available for the mixture.

12.2. Persistence and degradability

The surfactants contained in this preparation 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 Member States and will be provided with their request or at the request of a detergent manufacturer.

12.2.1. Substances

AMINES, C12-14 (EVEN NUMBERED) -ALKYLDIMETHYL, N-OXIDES
Biodegradability : Rapidly degradable.

DIDECYLDIMETHYLAMMONIUM CHLORIDE (CAS: 7173-51-5)
Biodegradability : Rapidly degradable.

GLYCOLIC ACID (CAS: 79-14-1)
Biodegradability : Rapidly degradable.

CITRIC ACID MONOHYDRATE (CAS: 5949-29-1)
Biodegradability : Rapidly degradable.

ETHANOL (CAS: 64-17-5)
Biodegradability : Rapidly degradable.

12.3. Bioaccumulative potential

12.3.1. Substances

DIDECYLDIMETHYLAMMONIUM CHLORIDE (CAS: 7173-51-5)
Bioaccumulation : BCF = 81

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

No data available.

SECTION 13 : DISPOSAL CONSIDERATIONS

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

13.1. Waste treatment methods

Do not pour into drains or waterways.

Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Soiled packaging :

Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

SECTION 14 : TRANSPORT INFORMATION

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2017 - IMDG 2016 - ICAO/IATA 2017).

14.1. UN number

2924

14.2. UN proper shipping name

UN2924=FLAMMABLE LIQUID, CORROSIVE, N.O.S.

(ethanol, phosphoric acid ...%)

14.3. Transport hazard class(es)

- Classification :

3+8

14.4. Packing group

III

14.5. Environmental hazards

-

14.6. Special precautions for user

ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel
	3	FC	III	3+8	38	5 L	274	E1	3	D/E

IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ
	3	8	III	5 L	F-E,S-C	223 274	E1

IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ
	3	8	III	354	5 L	365	60 L	A3	E1
	3	8	III	Y342	1 L	-	-	A3	E1

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

No data available.

SECTION 15 : REGULATORY INFORMATION

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

- Classification and labelling information included in section 2:

The following regulations have been used:

- EU Regulation No. 1272/2008 amended by EU Regulation No. 2016/1179. (ATP 9)

- Container information:

No data available.

- Particular provisions :

No data available.

- Labelling for detergents (EC Regulation No. 648/2004,907/2006) :

- less than 5 % : phosphonates
- less than 5 % : nonionic surfactants
- perfumes
- allergenic fragrances :

linalool

15.2. Chemical safety assessment

No data available.

SECTION 16 : OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.

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

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

Changes from the previous version :

- Section 2

Wording of the phrases mentioned in section 3 :

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Abbreviations :

DNEL : Derived No-Effect Level

PNEC : Predicted No-Effect Concentration

ADR : European agreement concerning the international carriage of dangerous goods by Road.

IMDG : International Maritime Dangerous Goods.

IATA : International Air Transport Association.

ICAO : International Civil Aviation Organisation

RID : Regulations concerning the International carriage of Dangerous goods by rail.

WGK : Wassergefahrdungsklasse (Water Hazard Class).

GHS02 : Flame

GHS05 : Corrosion

PBT: Persistent, bioaccumulable and toxic.

vPvB : Very persistent, very bioaccumulable.

SVHC : Substances of very high concern.