

**TURBO USONA****Section: 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product identifier**

Product name : TURBO USONA
Product code : 111166E
Use of the Substance/Mixture : Laundry detergent
Substance type: : Mixture

For professional users only.

Product dilution information : No dilution information provided.

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

Identified uses : Laundry detergent. Automatic process
Recommended restrictions on use : Reserved for industrial and professional use.

1.3 Details of the supplier of the safety data sheet

Company : Ecolab Ltd.
PO Box 11; Winnington Avenue
Northwich, Cheshire, United Kingdom CW8 4DX
+ 44 (0)1606 74488
ccs@ecolab.com

1.4 Emergency telephone number

Emergency telephone number : Food & Beverage, Institutional, Agriculture, Textile Hygiene:
Northwich: +44 (0)1606 74488
Healthcare Leeds: +44 (0)113 232 2480
Healthcare Swansea: +44 (0)1235 239670
Poison Information Centre telephone number : Not Available

Date of Compilation/Revision : 15.03.2017
Version : 1.0

Section: 2. HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Skin irritation, Category 2 H315
Eye irritation, Category 2 H319

2.2 Label elements

TURBO USONA**Labelling (REGULATION (EC) No 1272/2008)**

Hazard pictograms

:



Signal Word

: Warning

Hazard Statements

: H315
H319

Causes skin irritation.

Causes serious eye irritation.

Precautionary Statements

: **Prevention:**
P280

Wear protective gloves/ eye protection/ face protection.

Hazardous components which must be listed on the label:

sodium hydroxide

Alcohol ethoxylate

2.3 Other hazards

None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS**3.2 Mixtures****Hazardous components**

Chemical Name	CAS-No. EC-No. REACH No.	ClassificationREGULATION (EC) No 1272/2008	Concentration: [%]
benzenesulfonic acid, linear alkyl, sodium salt	68411-30-3 270-115-0 01-2119489428-22	Acute toxicity Category 4; H302 Skin irritation Category 2; H315 Serious eye damage Category 1; H318 Chronic aquatic toxicity Category 3; H412	>= 5 - < 10
Alcohols, C13-15, branched and linear, ethoxylated	157627-86-6	Acute toxicity Category 4; H302 Skin irritation Category 2; H315 Serious eye damage Category 1; H318 Acute aquatic toxicity Category 1; H400	>= 5 - < 10
fatty acids, coco, compds. with triethanolamine	61790-64-5 263-155-5	Eye irritation Category 2; H319	>= 5 - < 10
Fatty acids, coco, sodium salts	61789-31-9 263-050-4	Eye irritation Category 2; H319	>= 3 - < 5
Sodiumcumenesulphonat e	28348-53-0 248-983-7	Eye irritation Category 2; H319	>= 1 - < 2.5
sodium hydroxide	1310-73-2 215-185-5 01-2119457892-27	Skin corrosion Category 1A; H314 Corrosive to metals Category 1; H290	>= 0.5 - < 1
Substances with a workplace exposure limit :			

TURBO USONA

ethanol	64-17-5 200-578-6 01-2119457610-43	Flammable liquids Category 2; H225	$\geq 5 - < 10$
Propylene glycol	57-55-6 200-338-0 01-2119456809-23		$\geq 2.5 - < 5$
butanone	78-93-3 201-159-0 01-2119457290-43	Flammable liquids Category 2; H225 Eye irritation Category 2; H319 Specific target organ toxicity - single exposure Category 3; H336	$\geq 0.1 - < 0.25$

For the full text of the H-Statements mentioned in this Section, see Section 16.

Section: 4. FIRST AID MEASURES**4.1 Description of first aid measures**

- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.
- In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Get medical attention if irritation develops and persists.
- If swallowed : Rinse mouth. Get medical attention if symptoms occur.
- If inhaled : Get medical attention if symptoms occur.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

4.3 Indication of immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.

Section: 5. FIREFIGHTING MEASURES**5.1 Extinguishing media**

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

- Specific hazards during firefighting : Fire Hazard
Keep away from heat and sources of ignition.
Flash back possible over considerable distance.
Beware of vapours accumulating to form explosive concentrations.
Vapours can accumulate in low areas.
- Hazardous combustion products : Decomposition products may include the following materials:
Carbon oxides
nitrogen oxides (NOx)

TURBO USONA

Sulphur oxides
Oxides of phosphorus

5.3 Advice for firefighters

Special protective equipment for firefighters : Use personal protective equipment.

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel : Remove all sources of ignition. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.

Advice for emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.

6.2 Environmental precautions

Environmental precautions : Do not allow contact with soil, surface or ground water.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Eliminate all ignition sources if safe to do so. Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

6.4 Reference to other sections

See Section 1 for emergency contact information.
For personal protection see section 8.
See Section 13 for additional waste treatment information.

Section: 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling : Avoid contact with skin and eyes. Use only with adequate ventilation. Keep away from fire, sparks and heated surfaces. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Wash hands thoroughly after handling.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling.

TURBO USONA**7.2 Conditions for safe storage, including any incompatibilities**

Requirements for storage areas and containers : Keep away from heat and sources of ignition. Keep away from oxidizing agents. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.

Storage temperature : 5 °C to 40 °C

7.3 Specific end uses

Specific use(s) : Laundry detergent. Automatic process

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control parameters****Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
ethanol	64-17-5	TWA	1,000 ppm 1,920 mg/m ³	UKCOSSTD
Further information	2	Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used		
Propylene glycol	57-55-6	TWA (particles)	10 mg/m ³	UKCOSSTD
Further information	2	Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used		
		TWA (Total vapour and particles)	150 ppm 474 mg/m ³	UKCOSSTD
Further information	2	Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used		
sodium hydroxide	1310-73-2	STEL	2 mg/m ³	UKCOSSTD
butanone	78-93-3	TWA	200 ppm 600 mg/m ³	UKCOSSTD
Further information	Sk	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.		
		STEL	300 ppm 899 mg/m ³	UKCOSSTD
Further information	Sk	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.		

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
butanone	78-93-3	butan-2-one: 70 micromol per litre (Urine)	After shift	GB EH40 BAT

DNEL

benzenesulfonic acid, linear alkyl, sodium salt	:	End Use: Workers Exposure routes: Dermal Potential health effects: Long-term systemic effects Value: 85 mg/cm ²
		End Use: Workers Exposure routes: Dermal Potential health effects: Long-term local effects Value: 85 mg/cm ²
		End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term systemic effects

TURBO USONA

		Value: 6 mg/m3
		End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term local effects Value: 6 mg/m3
sodium hydroxide	:	End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term local effects Value: 1 mg/m3
		End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term local effects Value: 1 mg/m3
Propylene glycol	:	End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 168 mg/m3
		End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term local effects Value: 10 mg/m3
		End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 50 mg/m3
		End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term local effects Value: 10 mg/m3
		End Use: Consumers Exposure routes: Dermal Potential health effects: Long-term systemic effects Value: 213 mg/cm2
		End Use: Consumers Exposure routes: Ingestion Potential health effects: Long-term systemic effects Value: 85 ppm

PNEC

benzenesulfonic acid, linear alkyl, sodium salt	:	Fresh water Value: 0.268 mg/l
		Marine water Value: 0.0268 mg/l
		Intermittent use/release Value: 0.0167 mg/l
		Fresh water sediment

TURBO USONA

		Value: 8.1 mg/kg
		Marine sediment Value: 8.1 mg/kg
		Sewage treatment plant Value: 3.43 mg/l
Propylene glycol	:	Fresh water Value: 260 mg/l
		Marine water Value: 26 mg/l
		Intermittent use/release Value: 183 mg/l
		Fresh water sediment Value: 572 mg/kg
		Marine sediment Value: 57.2 mg/kg
		Sewage treatment plant Value: 20000 mg/l
		Soil Value: 50 mg/kg

8.2 Exposure controls**Appropriate engineering controls**

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling.

Eye/face protection (EN 166) : Safety glasses with side-shields

Hand protection (EN 374) : Recommended preventive skin protection
Gloves
Nitrile rubber
butyl-rubber
Breakthrough time: 1 – 4 hours
Minimum thickness for butyl-rubber 0.3 mm for nitrile rubber 0.2 mm or equivalent (please refer to the gloves manufacturer/distributor for advise).
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin and body protection (EN 14605) : No special protective equipment required.

TURBO USONA

Respiratory protection (EN 143, 14387) : None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. Use certified respiratory protection equipment meeting EU requirements(89/656/EEC, 89/686/EEC), or equivalent, when respiratory risks cannot be avoided or sufficiently limited by technical means of collective protection or by measures, methods or procedures of work organization.

Environmental exposure controls

General advice : Consider the provision of containment around storage vessels.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Appearance	: liquid
Colour	: clear, yellow
Odour	: Perfumes, fragrances
pH	: 8.0 - 9.0, 100 %
Flash point	: 50 °C closed cup, Does not sustain combustion.
Odour Threshold	: Not applicable and/or not determined for the mixture
Melting point/freezing point	: Not applicable and/or not determined for the mixture
Initial boiling point and boiling range	: Not applicable and/or not determined for the mixture
Evaporation rate	: Not applicable and/or not determined for the mixture
Flammability (solid, gas)	: Not applicable and/or not determined for the mixture
Upper explosion limit	: Not applicable and/or not determined for the mixture
Lower explosion limit	: Not applicable and/or not determined for the mixture
Vapour pressure	: Not applicable and/or not determined for the mixture
Relative vapour density	: Not applicable and/or not determined for the mixture
Relative density	: 1.01 - 1.05
Water solubility	: soluble
Solubility in other solvents	: Not applicable and/or not determined for the mixture
Partition coefficient: n-octanol/water	: Not applicable and/or not determined for the mixture
Auto-ignition temperature	: Not applicable and/or not determined for the mixture
Thermal decomposition	: Not applicable and/or not determined for the mixture
Viscosity, kinematic	: Not applicable and/or not determined for the mixture
Explosive properties	: Not applicable and/or not determined for the mixture
Oxidizing properties	: The substance or mixture is not classified as oxidizing.

9.2 Other information

Not applicable and/or not determined for the mixture

TURBO USONA

Section: 10. STABILITY AND REACTIVITY

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Acids
Bases

10.6 Hazardous decomposition products

Decomposition products may include the following materials:
Carbon oxides
nitrogen oxides (NO_x)
Sulphur oxides
Oxides of phosphorus

Section: 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Information on likely routes of exposure : Inhalation, Eye contact, Skin contact

Product

Acute oral toxicity	: Acute toxicity estimate : > 2,000 mg/kg
Acute inhalation toxicity	: There is no data available for this product.
Acute dermal toxicity	: There is no data available for this product.
Skin corrosion/irritation	: There is no data available for this product.
Serious eye damage/eye irritation	: Mild eye irritation
Respiratory or skin sensitization	: There is no data available for this product.
Carcinogenicity	: There is no data available for this product.

TURBO USONA

Reproductive effects : There is no data available for this product.

Germ cell mutagenicity : There is no data available for this product.

Teratogenicity : There is no data available for this product.

STOT - single exposure : There is no data available for this product.

STOT - repeated exposure : There is no data available for this product.

Aspiration toxicity : There is no data available for this product.

Components

Acute oral toxicity : benzenesulfonic acid, linear alkyl, sodium salt
LD50 rat: 1,080 mg/kg

Alcohols, C13-15, branched and linear, ethoxylated
LD50 rat: 1,250 mg/kg

fatty acids, coco, compds. with triethanolamine
LD50 rat: 6,400 mg/kg

Sodiumcumenesulphonate
LD50 rat: 7,000 mg/kg

ethanol
LD50 rat: 10,470 mg/kg

Propylene glycol
LD50 rat: 22,000 mg/kg

Components

Acute inhalation toxicity : Sodiumcumenesulphonate
4 h LC50 rat: 770 mg/l

ethanol
4 h LC50 rat: 117 mg/l

Propylene glycol
4 h LC50 rat: 158.5 mg/l

Components

Acute dermal toxicity : Alcohols, C13-15, branched and linear, ethoxylated
LD50 rat: > 2,000 mg/kg

Sodiumcumenesulphonate
LD50 rabbit: 2,000 mg/kg

ethanol
LD50 rabbit: > 15,800 mg/kg

Potential Health Effects

Eyes : Causes serious eye irritation.

Skin : Causes skin irritation.

TURBO USONA

Ingestion : Health injuries are not known or expected under normal use.
Inhalation : Health injuries are not known or expected under normal use.
Chronic Exposure : Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact : Redness, Pain, Irritation
Skin contact : Redness, Irritation
Ingestion : No symptoms known or expected.
Inhalation : No symptoms known or expected.

Section: 12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Environmental Effects : This product has no known ecotoxicological effects.

Product

Toxicity to fish : no data available
Toxicity to daphnia and other aquatic invertebrates : no data available
Toxicity to algae : no data available

Components

Toxicity to fish : benzenesulfonic acid, linear alkyl, sodium salt
96 h LC50 *Lepomis macrochirus* (Bluegill sunfish): 1.67 mg/l

Sodiumcumenesulphonate
96 h LC50 Fish: > 450 mg/l

ethanol
96 h LC50 *Pimephales promelas* (fathead minnow): > 100 mg/l

Propylene glycol
96 h LC50: > 10,000 mg/l

Components

Toxicity to daphnia and other aquatic invertebrates : benzenesulfonic acid, linear alkyl, sodium salt
48 h LC50 *Daphnia magna* (Water flea): 2.4 mg/l

Alcohols, C13-15, branched and linear, ethoxylated
48 h EC50 *Daphnia magna* (Water flea): 0.317 mg/l

sodium hydroxide
48 h EC50: 40 mg/l

Propylene glycol
48 h EC50: 18,340 mg/l

Components

TURBO USONA

Toxicity to algae : benzenesulfonic acid, linear alkyl, sodium salt
96 h EC50 *Pseudokirchneriella subcapitata* (green algae): 29 mg/l

Propylene glycol
96 h EC50: 19,000 mg/l

12.2 Persistence and degradability

Product

Biodegradability : The surfactants contained in the product are biodegradable according to the requirements of the detergent regulation 648/2004/EC

Components

Biodegradability : benzenesulfonic acid, linear alkyl, sodium salt
Result: Readily biodegradable.

Alcohols, C13-15, branched and linear, ethoxylated
Result: Readily biodegradable.

fatty acids, coco, compds. with triethanolamine
Result: Readily biodegradable.

Sodiumcumenesulphonate
Result: Readily biodegradable.

sodium hydroxide
Result: Not applicable - inorganic

ethanol
Result: Readily biodegradable.

Propylene glycol
Result: Readily biodegradable.

butanone
Result: Readily biodegradable.

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

Product

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

TURBO USONA

no data available

Section: 13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with the European Directives on waste and hazardous waste. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

13.1 Waste treatment methods

- | | |
|-----------------------------------|---|
| Product | : Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility. |
| Contaminated packaging | : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers. Dispose of in accordance with local, state, and federal regulations. |
| Guidance for Waste Code selection | : Organic wastes containing dangerous substances. If this product is used in any further processes, the final user must redefine and assign the most appropriate European Waste Catalogue Code. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable European (EU Directive 2008/98/EC) and local regulations. |

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (ADR/ADN/RID)

- | | |
|-----------------------------------|-----------------------|
| 14.1 UN number | : Not dangerous goods |
| 14.2 UN proper shipping name | : Not dangerous goods |
| 14.3 Transport hazard class(es) | : Not dangerous goods |
| 14.4 Packing group | : Not dangerous goods |
| 14.5 Environmental hazards | : Not dangerous goods |
| 14.6 Special precautions for user | : Not dangerous goods |

Air transport (IATA)

- | | |
|-----------------------------------|-----------------------|
| 14.1 UN number | : Not dangerous goods |
| 14.2 UN proper shipping name | : Not dangerous goods |
| 14.3 Transport hazard class(es) | : Not dangerous goods |
| 14.4 Packing group | : Not dangerous goods |
| 14.5 Environmental hazards | : Not dangerous goods |
| 14.6 Special precautions for user | : Not dangerous goods |

TURBO USONA

Sea transport (IMDG/IMO)

14.1 UN number : Not dangerous goods
 14.2 UN proper shipping name : Not dangerous goods
 14.3 Transport hazard class(es) : Not dangerous goods
 14.4 Packing group : Not dangerous goods
 14.5 Environmental hazards : Not dangerous goods
 14.6 Special precautions for user : Not dangerous goods
 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not dangerous goods

Section: 15. REGULATORY INFORMATION

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

according to Detergents Regulation EC 648/2004 : 5 % or over but less than 15 %: Anionic surfactants, Non-ionic surfactants, Soap
 Other constituents: Perfumes
 Allergens:
 2-(4-tert-Butylbenzyl) propionald-hyd
 Linalool

National Regulations

Take note of Dir 94/33/EC on the protection of young people at work.

Other regulations : The Chemicals (Hazard Information and Packaging for Supply) Regulations.
 The Control of Substances Hazardous to Health Regulations.
 Health and Safety at Work Act.

15.2 Chemical Safety Assessment

This product contains substances for which Chemical Safety Assessments are still required.

Section: 16. OTHER INFORMATION

Procedure used to derive the classification according to REGULATION (EC) No 1272/2008

Classification	Justification
Skin irritation 2, H315	Calculation method
Eye irritation 2, H319	Based on product data or assessment

Full text of H-Statements

H225 Highly flammable liquid and vapour.
 H290 May be corrosive to metals.
 H302 Harmful if swallowed.
 H314 Causes severe skin burns and eye damage.
 H315 Causes skin irritation.

TURBO USONA

H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

ADN – European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR – European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS – Australian Inventory of Chemical Substances; ASTM – American Society for the Testing of Materials; bw – Body weight; CLP – Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR – Carcinogen, Mutagen or Reproductive Toxicant; DIN – Standard of the German Institute for Standardisation; DSL – Domestic Substances List (Canada); ECHA – European Chemicals Agency; EC-Number – European Community number; ECx – Concentration associated with x% response; ELx – Loading rate associated with x% response; EmS – Emergency Schedule; ENCS – Existing and New Chemical Substances (Japan); ErCx – Concentration associated with x% growth rate response; GHS – Globally Harmonized System; GLP – Good Laboratory Practice; IARC – International Agency for Research on Cancer; IATA – International Air Transport Association; IBC – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 – Half maximal inhibitory concentration; ICAO – International Civil Aviation Organization; IECSC – Inventory of Existing Chemical Substances in China; IMDG – International Maritime Dangerous Goods; IMO – International Maritime Organization; ISHL – Industrial Safety and Health Law (Japan); ISO – International Organisation for Standardization; KECI – Korea Existing Chemicals Inventory; LC50 – Lethal Concentration to 50 % of a test population; LD50 – Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL – International Convention for the Prevention of Pollution from Ships; n.o.s. – Not Otherwise Specified; NO(A)EC – No Observed (Adverse) Effect Concentration; NO(A)EL – No Observed (Adverse) Effect Level; NOELR – No Observable Effect Loading Rate; NZIoC – New Zealand Inventory of Chemicals; OECD – Organization for Economic Co-operation and Development; OPPTS – Office of Chemical Safety and Pollution Prevention; PBT – Persistent, Bioaccumulative and Toxic substance; PICCS – Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR – (Quantitative) Structure Activity Relationship; REACH – Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID – Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT – Self-Accelerating Decomposition Temperature; SDS – Safety Data Sheet; TCSI – Taiwan Chemical Substance Inventory; TRGS – Technical Rule for Hazardous Substances; TSCA – Toxic Substances Control Act (United States); UN – United Nations; vPvB – Very Persistent and Very Bioaccumulative

Prepared by : Regulatory Affairs

Numbers quoted in the MSDS are given in the format: 1,000,000 = 1 million and 1,000 = 1 thousand. 0.1 = 1 tenth and 0.001 = 1 thousandth

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

TURBO USONA**ANNEX: EXPOSURE SCENARIOS****DPD+ Substances:**

The following substances are the lead substances that contribute to the mixture Exposure Scenario according to the DPD+ Rule:

Route	Substance	CAS-No.	EINECS-No.
Ingestion	sodium hydroxide	1310-73-2	215-185-5
Inhalation	sodium hydroxide	1310-73-2	215-185-5
Dermal	sodium hydroxide	1310-73-2	215-185-5
Eyes	Alcohols, C13-15, branched and linear, ethoxylated	157627-86-6	
aquatic environment	Alcohols, C13-15, branched and linear, ethoxylated	157627-86-6	

Physical properties DPD+ Substances:

Substance	Vapour pressure	Water solubility	Pow	Molar Mass
sodium hydroxide		1 g/ml		40 g/mol

To calculate if your downstream Operating Conditions and Risk management Measures are safe, please calculate your risk factor at the website below:

www.ecetoc.org/tra

Short title of Exposure Scenario : **Laundry detergent. Automatic process**

Use descriptors

Main User Groups : Industrial uses: Uses of substances as such or in preparations at industrial sites

Sectors of end-use : **SU3:** Industrial uses: Uses of substances as such or in preparations at industrial sites

Process categories : **PROC2:** Use in closed, continuous process with occasional controlled exposure
PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

Product categories : **PC35:** Washing and cleaning products (including solvent based products)

Environmental Release Categories : **ERC4:** Industrial use of processing aids in processes and products, not becoming part of articles