Safety Data Sheet
Conforms to – Regulation (EC) No. 1907/2006 (REACH), Article 31, Annex II, as amended by UK SI 2021/904
DELTA PLUS ECO
Date of first edition: 1/5/2026
Safety Data Sheet dated 05/01/2026 version 1

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

1.1. Product identifier

Mixture identification:

Trade name: DELTA PLUS ECO

Trade code: 19022021

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

Recommended use: detergent

Uses advised against: All uses other than recommended ones

1.3. Details of the supplier of the safety data sheet

Kerakoll UK Ltd
Tomlinson Road, Leyland, Lancashire, PR25 2DY,
United Kingdom
Tel. 01772 456831
safety@kerakoll.co.uk

1.4. Emergency telephone number

UK National Poisons Information Service.
E-mail: npis.birmingham@nhs.net; Tel: +44 (0)344 892 0111

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP regulation:

Skin Corr. 1A	Causes severe skin burns and eye damage.
Eye Dam. 1	Causes serious eye damage.
STOT SE 3	May cause respiratory irritation.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

GB CLP regulation:

Hazard pictograms and Signal Word

Danger

Hazard statements

H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.

Precautionary statements

P102	Keep out of reach of children.
P260	Do not breathe dust.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves and eye protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501	Dispose of contents/container in accordance with applicable regulations.

Contains

hydrogen chloride

Detergents (Amendment) (EU Exit) Regulations

Product contents:

non-ionic surfactants	< 5%
Perfumes	< 5%

Special provisions according to Annex XVII of UK REACH:

None.

2.3. Other hazards

When mixtures containing cement react with water, for instance when making concrete or mortar, or when the cement becomes wet, a strong alkaline solution is produced (high pH caused by the formation of calcium, sodium and potassium hydroxides).

Cement and mixtures containing cement may irritate the eyes, the mucous system, the throat and the respiratory system and cause coughing. Frequent inhalation of cement dust or mixtures containing cement over a long period of time increases the risk of developing lung diseases.

In case of prolonged contact with the skin, both cement and mixtures containing cement, including pastes, may cause skin sensitisation due to the presence of trace amounts of chromium VI salts. Where necessary, such an effect can be minimized by incorporating a special reducing agent to maintain the water-soluble chromium VI content to concentration rates below 0.0002% (2 ppm) on the total dry weight of cement.

No PBT or vPvB substances present in concentration >= 0.1%

Other Hazards: No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Mixture identification: DELTA PLUS ECO

Hazardous components within the meaning of GB CLP regulation and related classification:

Qty	Name	Ident. Numb.	Classification	Registration Number
≥10-<20 %	hydrogen chloride	CAS:7647-01-0 EC:231-595-7 Index:017-002-00-2	Met. Corr. 1, H290; Eye Dam. 1, H318; Skin Corr. 1B, H314; STOT SE 3, H335	
<0.01 %	2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve	CAS:111-76-2 EC:203-905-0 Index:603-014-00-0	Acute Tox. 4, H332; Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319	

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

OBTAIN IMMEDIATE MEDICAL ATTENTION.

Wash thoroughly the body (shower or bath).

Remove contaminated clothing immediatley and dispose off safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and label hazardous.

In case of Inhalation:

In case of inhalation, consult a doctor immediately and show him packing or label.

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

Eye irritation

Eye damages

Skin Irritation

Erythema

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO_2).

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non emergency personnel:

Wear personal protection equipment.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Provide adequate ventilation.

Use appropriate respiratory protection.

See protective measures under point 7 and 8.

For emergency responders:

Wear personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Use localized ventilation system.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

See also section 8 for recommended protective equipment.

Advice on general occupational hygiene:

Contamined clothing should be changed before entering eating areas.

Do not eat or drink while working.

7.2. Conditions for safe storage, including any incompatibilities

The product must be stored in waterproof, dry, clean conditions and protected from contamination. Do not use aluminium containers due to incompatibility of the materials.

The product contains cement with an addition of a Chromium reducing agent (VI) and its effectiveness decreases with time. Consequently, packaging's of the material indicate information about the production date, storing conditions and the appropriate storage period for the maintaining of the activity of the reducing agent and for maintaining the soluble Chromium (VI) amount under 2ppm over the total dry weight referred to cement (BS EN 196-10).

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Community Occupational Exposure Limits (OEL)

	OEL Type	Country	Occupational Exposure Limit
hydrogen chloride CAS: 7647-01-0	ACGIH		Short Term: Ceiling - 2 ppm A4 - URT irr
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 2 mg/m3 - 1 ppm; Short Term: 8 mg/m3 - 5 ppm Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve CAS: 111-76-2	ACGIH		Long Term: 20 ppm (8h) A3, BEI - Eye and URT irr
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 123 mg/m3 - 25 ppm; Short Term: 246 mg/m3 - 50 ppm Sk, BMGV Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)

Biological limit values

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve CAS: 111-76-2	Biological Indicator: 2-Butoxyethylacetat; Sampling Period: End of turn; End of working week Value: 150 mg/g; Medium: Urine

Predicted No Effect Concentration (PNEC) values

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve CAS: 111-76-2	Exposure Route: Fresh Water; PNEC Limit: 8.8 mg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 26.4 mg/l
	Exposure Route: Marine water; PNEC Limit: 880 µg/l
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 463 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 34.6 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 3.46 mg/kg
	Exposure Route: Soil; PNEC Limit: 2.33 mg/kg
	Exposure Route: Secondary poisoning; PNEC Limit: 20 mg/kg

Derived No Effect Level (DNEL) values

hydrogen chloride CAS: 7647-01-0	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Professional: 8 mg/m³; Consumer: 8 mg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Worker Professional: 15 mg/m³; Consumer: 15 mg/m³
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve CAS: 111-76-2	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 98 mg/m³; Consumer: 59 mg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Professional: 1091 mg/m³; Consumer: 426 mg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Worker Professional: 246 mg/m³; Consumer: 147 mg/m³
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 125 mg/kg; Consumer: 75 mg/kg
	Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects Worker Professional: 89 mg/kg; Consumer: 89 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 6.3 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects
Consumer: 26.7 mg/kg

8.2. Exposure controls

Eye protection:

Eye glasses with side protection.(EN166)

Protection for skin:

Chemical protection clothing.

Protection for hands:

Butyl rubber .

Respiratory protection:

Gas filter type B

Thermal Hazards:

Not expected if used as intended

Environmental exposure controls:

Prevent the product from entering sewers or surface and underground water.

Hygienic and Technical measures

N.A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid
Appearance and colour: Liquid Blue
Odour: Acidic
Odour threshold: N.A.
pH: 1.00
Melting point / freezing point: N.A.
Initial boiling point and boiling range: N.A.
Flash point: > 60°C / 93°C
Evaporation rate: N.A.
Upper/lower flammability or explosive limits: N.A.
Vapour density: N.A.
Vapour pressure: N.A.
Relative density: 1.00 REL
Solubility in water: Soluble
Solubility in oil: N.A.
Partition coefficient (n-octanol/water): N.A.
Auto-ignition temperature: N.A.
Decomposition temperature: N.A.
Viscosity: N.A.
Explosive properties: N.A.
Oxidizing properties: N.A.
Solid/gas flammability: N.A.
Volatile Organic compounds - VOCs = 0.00 % ; 0.00 g/l

9.2. Other information

Substance Groups relevant properties N.A.
Miscibility: N.A.
Conductivity: N.A.

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Data not available.

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

Stable under normal conditions.

10.5. Incompatible materials

None in particular.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological Information of the Preparation

a) acute toxicity	Not classified
	Based on available data, the classification criteria are not met
b) skin corrosion/irritation	The product is classified: Skin Corr. 1A(H314)
c) serious eye damage/irritation	The product is classified: Eye Dam. 1(H318)
d) respiratory or skin sensitisation	Not classified
	Based on available data, the classification criteria are not met
e) germ cell mutagenicity	Not classified
	Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified
	Based on available data, the classification criteria are not met
g) reproductive toxicity	Not classified
	Based on available data, the classification criteria are not met
h) STOT-single exposure	The product is classified: STOT SE 3(H335)
i) STOT-repeated exposure	Not classified
	Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified
	Based on available data, the classification criteria are not met

Toxicological information on main components of the mixture:

hydrogen chloride	a) acute toxicity	LC50 Inhalation of aerosol Rat = 8.3 mg/l 30min	
	b) skin corrosion/irritation	Skin Corrosive Human Positive	human skin model
	c) serious eye damage/irritation	Eye Corrosive Positive	Excised Bovine Cornea
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Negative	
	f) carcinogenicity	Carcinogenicity Inhalation Rat Negative	
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve	a) acute toxicity	ATE - Oral : 1200 mg/kg bw	
		LD50 Oral Guineapig = 1414 mg/kg	
		LC50 Inhalation Vapour Rat = 2.56 mg/l 4h	
		LD50 Skin Guineapig > 2000 mg/kg	
	b) skin corrosion/irritation	Skin Irritant Rabbit Positive 4h	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes 24h	
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Negative	
	f) carcinogenicity	Genotoxicity Negative	Mouse intraperitoneal rout
		Carcinogenicity Inhalation Rat = 125 mg/m3	NOAEC
	g) reproductive toxicity	No Observed Adverse Effect Level Oral = 720 mg/kg	Mouse

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

List of Eco-Toxicological properties of the product

Not classified for environmental hazards.

No data available for the product

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
hydrogen chloride	CAS: 7647-01-0 - EINECS: 231-595-7 - INDEX: 017-002-00-2	a) Aquatic acute toxicity : LC50 Fish = 20.5 mg/L
		a) Aquatic acute toxicity : LC50 Daphnia = 0.45 mg/L
		a) Aquatic acute toxicity : EC50 Algae = 0.73 mg/L
		c) Bacteria toxicity : EC50 = 0.23 mg/L
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve	CAS: 111-76-2 - EINECS: 203-905-0 - INDEX: 603-014-00-0	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss = 1474 mg/L 96h
		b) Aquatic chronic toxicity : NOEC Fish Brachydanio rerio = 100 mg/L OECD204 - 21days
		a) Aquatic acute toxicity : EC50 freshwater invertebrates = 690 mg/L
		b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 100 mg/L
		a) Aquatic acute toxicity : EC50 Algae pseudokirchneriella subcapitata = 623 mg/L 72h
		c) Bacteria toxicity : NOEC Uronema parduczi = 463 mg/L 48h

12.2. Persistence and degradability

Component	Persitence/Degradability:	Test	Value	Notes:
2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve	Readily biodegradable	Biochemical oxigen demand	98.000	28days

The surfactant(s) contained in this preparation 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

N.A.

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

No PBT or vPvB substances present in concentration >= 0.1%

12.6. Other adverse effects

N.A.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force. Disposal through discharge into wastewater is not permitted

SECTION 14: Transport information

14.1. UN number

1789

14.2. UN proper shipping name

ADR-Shipping Name: HYDROCHLORIC ACID

IATA-Shipping Name: HYDROCHLORIC ACID

IMDG-Shipping Name: HYDROCHLORIC ACID

14.3. Transport hazard class(es)

ADR-Class: 8

IATA-Class: 8

IMDG-Class: 8

14.4. Packing group

ADR-Packing Group: II

IATA-Packing group: II

IMDG-Packing group: II

14.5. Environmental hazards

Toxic ingredients quantity: 0.00

Very toxic ingredients quantity: 0.00

Marine pollutant: No

Environmental Pollutant: No

14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: 8

ADR - Hazard identification number: 80

ADR-Special Provisions: 520

ADR-Transport category (Tunnel restriction code): 2 (E)

Air (IATA):

IATA-Passenger Aircraft: 851

IATA-Cargo Aircraft: 855

IATA-Label: 8

IATA-Subsidiary hazards: -

IATA-Erg: 8L

IATA-Special Provisions: A3 A803

Sea (IMDG):

IMDG-Stowage and handling: Category C

IMDG-Segregation: SGG1 SG36 SG49

IMDG-Subsidiary hazards: -

IMDG-Special Provisions: -

IMDG-EMS: F-A, S-B

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

N.A.

SECTION 15: Regulatory information

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

Workplace exposure limit within the meaning of the Control of Substances Hazardous to Health Regulations 2002 (WEL-EH40)

REACH regulation as changed by the REACH etc. (Amendment etc.) (EU Exit) Regulations (UK REACH)

CLP regulation as changed by the Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations (GB CLP)

GB PIC legislation - (Regulation (EU) No 649/2012 as changed by the Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc) (EU Exit) Regulations

Restrictions related to the product or the substances contained according to Annex XVII of UK REACH:

Restrictions related to the product: 3

Restrictions related to the substances contained: None.

Additional Regulatory Information for Great Britain

No Additional Information

Provisions related to the Control of Major Accident Hazards Regulations 2015 (GB implementation of Seveso III):

None

GB PIC Legislation:

No substances listed

SVHC Substances:

No SVHC substances present in concentration >= 0.1%

UK regulations implementing Dir. 2010/75/EC (VOC directive)

Volatile Organic compounds - VOCs = 0.00 %

Volatile Organic compounds - VOCs = 0.00 g/L

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

Substances for which a Chemical Safety Assessment has been carried out:

hydrogen chloride

2-butoxyethanol; ethyleneglycol monobutyl ether; butyl cellosolve

SECTION 16: Other information

Code	Description
H290	May be corrosive to metals.

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

Code	Hazard class and hazard category	Description
2.16/1	Met. Corr. 1	Substance or mixture corrosive to metals, Category 1
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
3.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
3.2/1A	Skin Corr. 1A	Skin corrosion, Category 1A
3.2/1B	Skin Corr. 1B	Skin corrosion, Category 1B
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/1	Eye Dam. 1	Serious eye damage, Category 1
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3

Classification and procedure used to derive the classification for mixtures according to GB CLP regulation:

Classification according to GB CLP	Classification procedure
Skin Corr. 1A, H314	On basis of test data (pH)
Eye Dam. 1, H318	On basis of test data (pH)
STOT SE 3, H335	Calculation method

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

DNEL: Derived No Effect Level.

DPD: Dangerous Preparations Directive

DSD: Dangerous Substances Directive

EC50: Half Maximal Effective Concentration

ECHA: European Chemicals Agency

EINECS: European Inventory of Existing Commercial Chemical Substances.

ES: Exposure Scenario

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

IARC: International Agency for Research on Cancer
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
IC50: half maximal inhibitory concentration
ICAO: International Civil Aviation Organization.
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG: International Maritime Code for Dangerous Goods.
INCI: International Nomenclature of Cosmetic Ingredients.
IRCCS: Scientific Institute for Research, Hospitalization and Health Care
KAFH: Keep Away From Heat
KSt: Explosion coefficient.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
LDLo: Leathal Dose Low
N.A.: Not Applicable
N/A: Not Applicable
N/D: Not defined/ Not available
NA: Not available
NIOSH: National Institute for Occupational Safety and Health
NOAEL: No Observed Adverse Effect Level
OSHA: Occupational Safety and Health Administration
PBT: Persistent, Bioaccumulative and Toxic
PGK: Packaging Instruction
PNEC: Predicted No Effect Concentration.
PSG: Passengers
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
vPvB: Very Persistent, Very Bioaccumulative.

Exposure Scenario
2-butoxyethanol

Exposure Scenario, 17/03/2023

Substance identity	
	2-butoxyethanol
CAS No.	111-76-2
INDEX No.	603-014-00-0
EINECS No.	203-905-0
Registration number	01-2119475108-36

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1. ES 1

1.1 TITLE SECTION

Exposure Scenario name	Professional application of coatings and inks
Date - Version	17/03/2023 - 1.0
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Product Categories	Coatings and paints, thinners, paint removers (PC9a)

Environment Contributing Scenario	
CS1	ERC8a - ERC8d
Worker Contributing Scenario	
CS2 Material transfers	PROC8a
CS3 Rolling, Brushing	PROC10
CS4 Rolling, Brushing	PROC10
CS5 Roller, spreader, flow application	PROC11
CS6 Roller, spreader, flow application	PROC11

1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario (ERC8a, ERC8d)

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8a, ERC8d)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure > 10 Pa (Standard Temperature and Pressure)

Vapour pressure:
= 117 Pa

Concentration of substance in product:
Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use (or from service life)

Emission days: 365 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

	Air - minimum efficiency of: 98 % Soil - minimum efficiency of: 1 % Water - minimum efficiency of: 1 %

Conditions and measures related to sewage treatment plant

STP type:
Municipal Sewage Treatment Plant
STP effluent (m^3/day): 2000

Other conditions affecting environmental exposure

Local marine water dilution factor: 100

Local freshwater dilution factor: 10
Receiving surface water flow: 18000 m³/day
Covers indoor and outdoor use

1.2. CS2: Worker Contributing Scenario: Material transfers (PROC8a)

Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure > 10 Pa (Standard Temperature and Pressure)

Vapour pressure:
= 117 Pa

Concentration of substance in product:
Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:
Covers use up to = 480 min
Frequency:
Covers use up to 5 days per week

Technical and organisational conditions and measures

Technical and organisational measures

Provide a good standard of controlled ventilation (5 to 10 air changes per hour).	Inhalation - minimum efficiency of: = 70 %

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: = 80 %
Wear suitable face shield.	

Other conditions affecting worker exposure

Indoor use
Professional use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

1.2. CS3: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Process Categories	Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure > 10 Pa (Standard Temperature and Pressure)

Vapour pressure:
= 117 Pa

Concentration of substance in product:
Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:
Covers use up to = 480 min
Frequency:

Covers use up to 5 days per week

Technical and organisational conditions and measures

Technical and organisational measures

Provide a good standard of controlled ventilation (5 to 10 air changes per hour).	Inhalation - minimum efficiency of: = 70 %

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: = 80 %
Wear suitable face shield.	

Other conditions affecting worker exposure

Indoor use
Professional use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

1.2. CS4: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Process Categories	Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure > 10 Pa (Standard Temperature and Pressure)

Vapour pressure:
= 117 Pa

Concentration of substance in product:
Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use/exposure

Duration:
Covers use up to = 480 min
Frequency:
Covers use up to 5 days per week

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: = 80 %
Wear suitable face shield.	

Other conditions affecting worker exposure

Outdoor use
Professional use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

1.2. CS5: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)

Process Categories	Non industrial spraying (PROC11)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure > 10 Pa (Standard Temperature and Pressure)

Vapour pressure:
= 117 Pa

Concentration of substance in product:
Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use < 3 L/min

Duration:
Covers use up to = 240 min

Frequency:
Covers use up to 5 days per week

Technical and organisational conditions and measures

Technical and organisational measures
Ensure operatives are trained to minimise exposures.
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: = 80 %
Wear suitable respiratory protection.	Inhalation - minimum efficiency of: = 95 %
Wear suitable face shield.	

Other conditions affecting worker exposure

Indoor use
Professional use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

1.2. CS6: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)

Process Categories	Non industrial spraying (PROC11)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure > 10 Pa (Standard Temperature and Pressure)

Vapour pressure:
= 117 Pa

Concentration of substance in product:
Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use < 3 L/min

Duration:
Covers use up to = 480 min

Frequency:
Covers use up to 5 days per week

Technical and organisational conditions and measures

Technical and organisational measures
Ensure operatives are trained to minimise exposures.
Ensure that a spraying booth is used.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection
Wear suitable respiratory protection.
Wear suitable face shield.

Other conditions affecting worker exposure

Indoor use
Professional use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

1.3 Exposure estimation and reference to its source

1.3. CS1: Environment Contributing Scenario (ERC8a, ERC8d)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
soil	N/A	ECETOC TRA environment v3	= 0.018688

Additional information on exposure estimation:
Risk from environmental exposure is driven by soil.

1.3. CS2: Worker Contributing Scenario: Material transfers (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	= 2.7429 mg/kg bw/day	ECETOC TRA worker v3	= 0.021943
inhalative, systemic, long-term	= 36.9294 mg/m³	ECETOC TRA worker v3	= 0.376831

1.3. CS3: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	= 5.4857 mg/kg bw/day	ECETOC TRA worker v3	= 0.043886
inhalative, systemic, long-term	= 36.9294 mg/m³	ECETOC TRA worker v3	= 0.376831

1.3. CS4: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	= 3.2914 mg/kg bw/day	ECETOC TRA worker v3	= 0.026331
inhalative, systemic, long-term	= 57.7012 mg/m³	ECETOC TRA worker v3	= 0.527563

1.3. CS5: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	= 21.4286 mg/kg bw/day	ECETOC TRA worker v3	= 0.171429

inhalative, systemic, long-term	= 55 mg/m³	ECETOC TRA worker v3	= 0.561224

1.3. CS6: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	= 12.8571 mg/kg bw/day	ECETOC TRA worker v3	= 0.102857
inhalative, systemic, long-term	= 62 mg/m³	ECETOC TRA worker v3	= 0.632653

1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure Scenario
Hydrogen chloride

Exposure Scenario, 16/02/2022

Substance identity	
	Hydrogen chloride
CAS No.	7647-01-0
INDEX No.	017-002-00-2
EINECS No.	231-595-7

Table of contents

1. ES 1 Widespread use by professional workers

1.1 TITLE SECTION

Exposure Scenario name	Professional use of facade/surface cleaning products
Date - Version	16/02/2022 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)

Environment Contributing Scenario

CS1	ERC8a - ERC8b - ERC8e

Worker Contributing Scenario

CS2 Equipment cleaning and maintenance	PROC8a
CS3 Rolling, Brushing	PROC10
CS4 Mixing operations	PROC19

1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario (ERC8a, ERC8b, ERC8e)

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use of reactive processing aid (no inclusion into or onto article, indoor) - Widespread use of reactive processing aid (no inclusion into or onto article, outdoor) (ERC8a, ERC8b, ERC8e)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure 0,5 - 10 kPa at STP

Concentration of substance in product:

Covers concentrations up to 40 %

1.2. CS2: Worker Contributing Scenario: Equipment cleaning and maintenance (PROC8a)

Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure 0,5 - 10 kPa at STP

Concentration of substance in product:

Covers concentrations up to 40 %

Amount used, frequency and duration of use/exposure

Duration:

Covers use up to > 4 h

Technical and organisational conditions and measures

Technical and organisational measures

Handle substance within a predominantly closed system provided with extract ventilation. Ensure operatives are trained to minimise exposures.	Dermal - minimum efficiency of: 90 %

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Wear suitable gloves tested to EN374.

Other conditions affecting worker exposure

Professional use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

1.2. CS3: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Process Categories	Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure 0,5 - 10 kPa at STP

Concentration of substance in product:
Covers concentrations up to 40 %

Amount used, frequency and duration of use/exposure

Duration:
Covers use up to > 4 h

Technical and organisational conditions and measures

Technical and organisational measures

Ensure operatives are trained to minimise exposures. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).	Inhalation - minimum efficiency of: 90 %

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection
Wear suitable gloves tested to EN374.

Other conditions affecting worker exposure

Professional use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

1.2. CS4: Worker Contributing Scenario: Mixing operations (PROC19)

Process Categories	Manual activities involving hand contact (PROC19)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure 0,5 - 10 kPa at STP

Concentration of substance in product:
Covers concentrations up to 40 %

Amount used, frequency and duration of use/exposure

Duration:
Covers use up to > 4 h

Technical and organisational conditions and measures

Technical and organisational measures
Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection
Wear suitable gloves tested to EN374.
Wear a full face respirator conforming to EN136.

Other conditions affecting worker exposure

Professional use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

1.3 Exposure estimation and reference to its source

N/A

1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.