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

1.1 Product identifiers

Product name : ProSafe FC+
Product number : PSFC+
Brand : Hidex
REACH NO. : A registration number is not available for this mixture. All the substances used within the mixture are either; Pre-REACH registered, fully REACH Registered, exempt from registration or the annual tonnage does not require registration.

Unique Formula Identifier Code: R600-F0VN-2008-5VE6

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

Scientific Research and Development ONLY (Sector of Use: SU24). Not for consumer use.
Application of the substance / the mixture: Liquid Scintillation Cocktail ONLY.

1.3 Details of the supplier of the safety data sheet

Supplier : Hidex Chemicals Oy
Address : Lemminkäisenkatu 62, FIN-20520, Turku, Finland
Telephone : +358 10 843 5570
Website : www.hidex.com
E-mail address : chemicals@hidex.com

1.4 Emergency telephone numbers

Call your local poison centre quoting the Unique Formula Identifier Code given in section 1.1.

Poison Centres

Country	Language	European Poison Centre	Phone	Website
Belgium	French	Centre Antipoisons	070 245 245 (free, 24/7)	https://www.centreantipoisons.be
	Dutch	Antigif centrum	070 245 245 (free, 24/7)	http://www.antigifcentrum.be
Finland	Finnish Swedish English	Helsinki University Hospital– Poison Information Centre	0800 147 111 (free, 24/7) 09 471 977 (charged)	https://www.hus.fi/en/potilaalle/sairaalat-ja-toimipisteet/myrkytystietokeskus
France	French English	Service national d'assistance reglementaire REACH	+ 33 (0) 1 45 42 59 59 (free, 24/7) This number takes you through to local poison centre numbers for the different regions	https://reach-info.ineris.fr/Numero_orfila
Germany	German English	Local Poison Centres:		
		Berlin	+49 (0) 30 19240	https://giftnotruf.charite.de
		Bonn	+49 (0) 228 19240	**http://www.gizbonn.de**
		Erfurt	+49 (0) 361 730730	https://www.ggiz-erfurt.de/home.html
		Freiburg	+49 (0) 761 19240	https://www.uniklinik-freiburg.de/giftberatung.html
		Gottingen	+49 (0) 551 19240	https://www.giz-nord.de/cms/index.php
		Homburg/Saer	+49 (0) 6841 19240	http://www.uniklinikum-saarland.de/de/einrichtungen/kliniken_institute/
		Mainz	+49 (0) 6131 19240	**http://www.giftinfo.uni-mainz.de**
		Munchen	+49 (0) 89 19240	http://www.toxinfo.med.tum.de

Cont…

Poison Centres – Call your local poison centre quoting the Unique Formula Identifier Code given in section 1.1.

Country	Language	European Poison Centre	Phone	Website
Hungary	Hungarian	Health toxicology information service	+36 80 201 199 (free 24/7 - only from Hungary) +36 1 476 6464 (24/7, can be called for a normal fee from abroad)	https://www.nnk.gov.hu/index.php/kemiai-biztonsagi-es-kompetens-hatosagi-fo/egeszsegugyi-toxikologiai-tajekoztato-szolgalat
Italy	Italian	Centro Antivelni firenze	+39 055 794 7819 (24/7)	Presentazione (antiveleni.altervista.org)
Ireland	English	Poisons information Centre of Ireland	+353 1 809 21 66 (8am-10pm / 7 days a week) +353 1 809 25 66 (24/7, healthcare profession only)	https://www.poisons.ie/
Lithuania	Lithuanian English	Poison Information Bureau part of The State Medicines Control Agency	+370 8-5 236 20 52 (free, 24/7)	http://www.apsinuodijau.lt/pirma-pagalba/
Netherlands	French English Dutch	National Poisons Information Center / University Medical Center Utrecht	+31 88 75 585 61	https://www.umcutrecht.nl/nl
Poland	Polish	National Poison Information Centres:		
		Krakow	+48 12 411 99 99	http://www.oit.cm.uj.edu.pl
		Gdansk	+48 58 682 04 04	http://www.pctox.pl/new/
		Poznań	+48 61 847 69 46	N/A
		Warszawa	+48 607 218 174	N/A
Romania	Romanian	National Institute for Public Health, Ministry of Health		
		CNMRMC	+40 213 183 606	N/A
		Spitalul Clinic de Urgenta Bucuresti	+40 215 992 300 int. 291	N/A
		Spitalul Clinic Judetean de Urgenta Targu Mures	+40 265.212.111	N/A
Slovakia	Slovak	National Toxicological Information Centre	+421 2 5477 4166	http://www.ntic.sk/ntic_en.php
Spain	Spanish	National Emergency Telephone Number of Spanish Poison Centre	+34 91 562 04 20	https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/productos-quimicos/portal-reach-clp/novedades/detalle_novedades.aspx?id=tcm:30-193752-16
Sweden	Swedish English	Swedish Poison Information Centre	**112 (24/7) Emergency** 010-456 6700 Less urgent	In English - Giftinformationscentralen
UK	English	National Poisons Information Service NHS	+44 (0) 344 892 0111 - Healthcare Professionals ONLY 111 – General public	https://www.npis.org/Industrynotify.html https://www.nhs.uk/nhs-services/

SECTION 2: Hazards Identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008

Aspiration toxicity	Category 1	H304
Serious eye damage	Category 1	H318
Skin Irritation	Category 2	H315
Chronic Aquatic	Category 1	H410

For the full text of the H-Statements mentioned here - see section 16

2.2 Label elements

Hazard pictograms

GHS05

GHS08

GHS09

Signal word **Danger**

Cont…

Contains Di-isopropylnaphthalene isomers, Alcohols, secondary C11-15, ethoxylated and 2-(2-butoxyethoxy)ethanol

Hazard statements

H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H318	Causes serious eye damage
H410	Very toxic to aquatic life with long lasting effects

Precautionary statements

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310+P331	If SWALLOWED: Immediately call a POISON CENTRE / DOCTOR. DO NOT INDUCE VOMITING
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338	IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

2.3 Other hazards

Results of PBT and vPvB assessment
This product contains di-isopropylnaphthalene isomers (CAS # 38640-62-9) and should be handled accordingly as if it were a PBT/vPvB.

Endocrine Disrupting Properties
This product does not contain any substances that have endocrine disrupting properties.

SECTION 3: Composition / Information on Ingredients

3.1 Chemical characterisation: Mixtures

Description: Mixture of substances listed below with non-hazardous additions.

Hazardous components:

Di-isopropylnaphthalene isomers					
CAS #: 38640-62-9 EC NUMBER: 254-052-6 REACH: 01-2119565150-48-XXXX	Aspiration Toxicity category 1 Chronic aquatic 1	H304 H410	50-80%	ATE: M Factor: SCL:	N/A Chronic=1 N/A
Alcohols, secondary C11-15, ethoxylated					
CAS #: 68131-40-8 EC NUMBER: 614-295-4 REACH: Exempt	Eye damage category 1 Skin irritation category 2	H318 H315	20-40%	ATE: M Factor : SCL:	N/A N/A N/A
2-(2-butoxyethoxy)ethanol					
Annex XVII -Restriction on the manufacture, placing on the market and use of dangerous substances, preparations and articles - Listed under entry 55. Not applicable in this application					

CAS #: 112-34-5 EC NUMBER: 203-961-6 REACH: 01-2119475104-44-XXXX	Eye irritation category 2	H319	5-10%	ATE: M Factor: SCL:	N/A N/A N/A
Docusate sodium					
CAS #: 577-11-7 EC NUMBER: 209-406-4 REACH: Exempt	Eye damage category 1 Skin irritation category 2	H318 H315	1-5%	ATE: M Factor: SCL:	N/A N/A N/A
Phosphate Ester					
CAS #: 68130-47-2 EC NUMBER: 614-291-2 REACH: Exempt	Eye irritation category 1C Skin irritation category 1	H318 H314	1-5%	ATE: M Factor: SCL:	N/A N/A N/A

For the full text of the H-Statements - see section 16 & for further information on Regulations – see section 15.

SECTION 4: First Aid Measures

4.1 Description of first aid measures

General information: Consult a DOCTOR. Show this safety data sheet to the doctor in attendance.

If inhaled: Move person into fresh air.

In case of contact with skin contact: Wash off with plenty of water.

In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Protect unharmed eye.

If swallowed: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Call for a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed: No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed: No further information available.

SECTION 5: Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing agents: Carbon Dioxide, dry powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

5.2 Special hazards arising from the substance or mixture: No further relevant information available.

5.3 Advice for firefighters

Special Protective equipment: Wear self-contained respiratory protective device and a fully protective suit.

Further Information: Cool closed containers exposed to fire with water spray. Contaminated water must not be discharged into drains.

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: Use personal protective equipment. Keep unprotected persons away.

Special precautions: Particular danger of slipping on leaked/spilled product.

6.2 Environmental precautions: Inform respective authorities in case of seepage into water course.
Do not allow to enter surface or ground water.
Dilute with plenty of water.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up: Absorb with liquid binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent
Ensure adequate ventilation.
Pick up mechanically

Dispose of according to local regulations (see section 13).

6.4 Reference to other sections

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and Storage

7.1 Precautions for safe handling

Advice on safe handling: Wear personal protective equipment.
Avoid contact with skin and eyes.
Avoid inhalation of vapour or mist.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

Information about fire and explosion protection: Keep away from sources of ignition.
Do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: Keep container tightly sealed.
Protect from exposure to the light.

7.3 Specific end use(s)

Advised temperature of use: 20-25 °C
Uses identified and documented

SECTION 8: Exposure Controls / Personal Protection

8.1 Control parameters

Components with workplace control parameters:

Component	CAS - No	Exposure	Value	Control Parameter
Di-isopropylnaphthalene isomers	38640-62-9	DNEL	long term	2.1 mg / kg / d ORAL 2.1 mg / kg / d DERMAL 7.4 mg / kg / d INHALATION

Component	Country	Values			
2-(2-butoxyethoxy) ethanol		Eight hours		Short-term	
		ppm	mg/m³	ppm	mg/m³
CAS No.: 112-34-5	UK	10	67.5	15	101.2
	EU	10	67.5	15	101.2
	FR	10	67.5	15	101.2
	Germany	10	67	15	100
	Netherlands		50		100
	Slovakia				
	Finland	10	68		
	Poland		67		100
	Hungary		67.5		101.2
	Belgium	10	67.5	15	101.2
	Spain	10	67.5	15	101.2
	Romania	10	67.5	15	101.2
	Lithuania				

8.2 Exposure controls

General protective and hygienic measures: Handle in accordance with good industrial hygiene and safety practice.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Avoid inhalation of vapour or mist.
Do not eat, drink, smoke or sniff while working.

Personal Protective Equipment: Wear suitable gloves, body and eye protection and a face shield.

Respiratory protection: No personal respiratory protective equipment normally required.

Skin protection: Handle with protective gloves. The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves must satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Splash contact Material: Nitrile-rubber. Minimum layer thickness: 0.4 mm Break through time: 240 min If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye / face protection: Tightly fitting safety goggles. Face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH(Us) or EN 166(EU).

Body protection: Protective work clothing – complete suit protecting against chemicals. The type of protective clothing must be selected according to the concentration and amount of the dangerous substance at the specified workplace.

Control of environmental exposure Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical state:	Liquid
Form:	Liquid
Colour:	Colourless
Odour:	Characteristic
Odour threshold:	Not determined.
pH-value:	~2.8
Melting point/Melting range:	Not determined
Boiling point/Boiling range:	>290°C
Flash point:	149°C
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	Not determined.
Self-igniting:	Product is not self-igniting
Danger of explosion:	Product does not present an explosion hazard
Explosion limits:	Not determined
Vapour pressure:	Not determined
Density at 20 °C:	1.0 gm/cm^3
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with water:	<10ppm

Particle size NA
Partition coefficient (n-octanol/water): Not determined.
Viscosity:
Dynamic: Not determined.
Kinematic: Not determined.

9.2 Other information
Information with regard to physical hazard class: No additional information
Other Safety Characteristics: No additional information

SECTION 10: Stability and Reactivity

10.1 Reactivity: No data available

10.2 Chemical stability Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions: No decomposition if used according to specifications.
Reacts with strong oxidising agents.

10.4 Conditions to avoid Toxic fumes may be released if heated above decomposition point.

10.5 Incompatible materials: No further relevant information available.

10.6 Hazardous decomposition products: Carbon monoxide, carbon dioxide, sulphur oxides and phosphorus compounds.

SECTION 11: Toxicological Information

11.1 Information on toxicological effects

Component	CAS Number	Value LD50/ LC50
Di-isopropylnaphthalene isomers	38640-62-9	>4,000 mg/kg (rat) ORAL >4,000 mg/kg (rat) DERMAL >5.6 mg/l (rat) INHALATION
2-(2-butoxyethoxy) ethanol	112-34-5	>7,291 mg/kg (rat) ORAL >2,764 mg/kg (rat) DERMAL
Alcohols, secondary C11-15, ethoxylated	68131-40-8	>3,000 mg/kg (rat) ORAL *estimate* >2,000 mg/kg (rat) DERMAL *estimate*
Docusate sodium	577-11-7	>3,100 mg/kg (rat) ORAL >10,000 mg/kg (rabbit) DERMAL >20.0 mg/l/4hour (rat) INHALATION

Acute toxicity:
Skin corrosion / irritation: Causes skin irritation.
Serious eye damage / eye irritation: Causes serious eye damage.
Respiratory sensitisation: No sensitising effects known.
Germ cell mutagenicity: Based on available data, classification criteria not met.
Carcinogenicity: Based on available data, classification criteria not met.
Reproductive toxicity: Based on available data, classification criteria not met.
Specific Target Organ Toxicity – Single Exposure: Based on available data, classification criteria not met.
Specific Target Organ Toxicity – Repeated Exposure: Based on available data, classification criteria not met.
Aspiration hazard: May be fatal if swallowed and enters airways.
Additional information: The toxicological properties have not been fully investigated.

11.2 Endocrine disrupting properties This product does not contain any substances that have endocrine disrupting properties.

11.3 Information on other hazards No additional health effects are reported.

SECTION 12: Ecological Information

12.1 Toxicity

Aquatic toxicity:

Component	CAS NUMBER	LC50
Di-isopropylnaphthalene isomers	38640-62-9	Daphnia 1.7 mg/l
2-(2-butoxyethoxy) ethanol	112-34-5	Daphnia 1.3 mg/l

12.2 Persistence and degradability: Not readily biodegradable.

12.3 Bio accumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

12.5 Results of PBT and vPvB Assessment: This product contains di-isopropylnaphthalene isomers (CAS # 38640-62-9) and should be handled accordingly as if it were a PBT/vPvB

Additional ecological information: Toxic to aquatic life with long lasting effects.
General notes: Do not allow large quantities of product, undiluted or un-neutralised to reach ground water, water course or sewage system. Dangerous to drinking water, even if small quantities leak into the ground. Poisonous to fish and plankton.

SECTION 13: Disposal Considerations

13.1 Waste treatment methods
Product: Waste product must be disposed of according to local authority recommendations, e.g. convey to a suitable incinerator.

Uncleaned Packaging: Disposal must be made according to official regulations. Uncleaned packaging may be classifiable as hazardous waste.

SECTION 14: Transport Information

14.1 UN-Number
ADR, IMDG, IATA UN3082
ADR/IMDG: Not restricted as per special provision 375
IATA: Not restricted as per special provision A 197

14.2 UN proper shipping name ADR UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S. (contains Di-isopropylnaphthalene isomers)
IMDG/IATA 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S. (contains Di-isopropylnaphthalene isomers) MARINE POLLUTANT

14.3 Transport hazard class(es) ADR, IMDG, IATA 9 Miscellaneous dangerous goods

14.4 Packing group -ADR, IMDG, IATA III

14.5 Environmental hazards: This product contains environmentally hazardous substances: Di-isopropylnaphthalene isomers

Marine pollutant Symbol (fish and tree)
Special marking (ADR) Symbol (fish and tree)

14.6 Special precautions for user **WARNING:** Miscellaneous dangerous goods
Danger code (Kemler): 90

EMS Number: F-A,S-F

14.7 Maritime transport in bulk according to IMO instruments

Limited quantities (LQ)	5L
Excepted quantities (EQ)	Code: E1
Maximum net quantity per inner packaging:	30g
Maximum net quantity per outer packaging:	1000g
Transport category	3
Tunnel restriction code	E
IMDG	
Limited quantities (LQ)	5L
Excepted quantities (EQ) Code:	E1
	Maximum net quantity per inner packaging: 30 g
	Maximum net quantity per outer packaging: 1000g
UN "Model Regulation":	3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S. (contains Di-isopropylnaphthalene isomers) 9, III

SECTION 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
No further information available.

15.2 Chemical safety assessment
A Chemical Safety Assessment has been carried out on the major REACH Registered components.

Section 16: Other Information

Hazard statements

H304	May be fatal if swallowed and enters airways
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H410	Very toxic to aquatic life with long lasting effects

Precautionary statements

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310+P331	If SWALLOWED: Immediately call a POISON CENTRE / DOCTOR. DO NOT INDUCE VOMITING
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338	IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Version 6.6 EN last updated 04/2023

Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
NIOSH: National Institute of Occupational Safety and Health
LL50: Loading rate of test substance resulting in 50% mortality)
LD50: Lethal dose, 50 percent
LC50: Lethal Concentration, 50 percent
ATE: Acute Toxicity Estimate
M Factor: Multiplying factor for substances that are highly toxic to aquatic environment
SCL: Specific Concentration Limit: a concentration limit that is specific to a substance and takes precedence over generic concentration limit or cut-off

Annex to the SDS

- This formulation contains several substances.
- The substances that contribute to its hazard classification are detailed in section 3.2 of the SDS.
- The lead component / priority substance in the formulation has been identified as Bis(isopropyl)naphthalene (CAS #: 38640-62-9).
- The exposure scenario data for this substance is covered in this Annex.
- This data has been reproduced exactly from the manufacturer's Extended Safety Data Sheet.
- No scaling has been applied to account for the percentage of substance in the formulation.

Overview Of Exposure Scenarios

This section details the applicable Exposure Scenarios (ES):

ES	Sector of Use (SU)		Process Category (PROC)		Product Category (PC)		Environmental Release Category (ERC)	
1	**SU03**	Industrial uses	PROC01	Use in closed process, no likelihood of exposure.	PC21	Laboratory Chemicals	ERC02	Mixing and blending of substances into (chemical) preparations in all types of formulating industries.
		Manufacture of chemicals	PROC03	Use in closed batch process (synthesis or formulation).				
			PROC08b	Transfer of substance or preparation (charging/ discharging) from/to vessels/large containers at dedicated facilities.				
			PROC09	Transfer of substance or preparation into small containers (dedicated filling line, including weighing).				
2	**SU21**	Professional Use	PROC15	Use as laboratory reagent.	PC21	Laboratory Chemicals	ERC9a	Wide dispersive indoor use of substances in closed systems.
	SU24	Scientific Research & Development						

- 2 exposure scenarios from the manufactures extended safety data sheet have been deemed applicable to this formulation.
- Each exposure scenario is detailed below.

Exposure Scenario 1 – SU03

SU03

- **Formulation and (re)packing of substances and mixtures,**
- **Formulation in Liquid Scintillation Cocktails**
- **Industrial**

Use Descriptors: SU03; PROC01, PROC03, PROC08b, PROC09; ERC02
Process Category: PROC01, PROC03, PROC08b, PROC09
Environmental Release Category: ERC02
Market sector by type of chemical product: PC21

Environmental contributing scenarios

- **Formulation in scintillation cocktails:** ERC02

Health contributing scenarios

- **Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions:** PROC01
- **Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition:** PROC03
- **Transfer of substance or mixture (charging and discharging) at dedicated facilities:**PROC08b
- **Transfer of substance or mixture into small containers (dedicated filling line, including weighing):** PROC09

Section 2 - SU03 - Exposure Controls

Contributing scenario controlling environmental exposure for:
Amounts used:

- Daily amount per site: ≤0.22 tonnes/day.
- Annual site tonnage: ≤65 tonnes/year.
- Release duration: ≥300 days per year.

Other conditions affecting environmental exposure:

- Receiving surface water flow: ≥18000 m³/d.
- Release factor after on-site risk management:
- Release to waste water from process: 0.0005 % (ESVOC SPERC 2.2.v1).
- Release to air from process: 0.05 % (ESVOC SPERC 2.2.v1).
- Release to soil from process: 0.01 % (ERC02).

Technical conditions and measures at process level (source) to prevent release:

- Type of activity or process: Solvent-based process.
- Negligible waste water emissions as the process operates without water contact.
- Waste water emissions generated from equipment cleaning with water.
- Negligible air emissions as the process operates in a contained system.

Indoor use

- Process optimised for highly efficient use of raw materials.
- On-site Exhaust air treatment: Upgrade of the system in place or additional air treatment measures, such as wet scrubber and/or air filtration and/or thermal oxidation and/or vapour recovery systems, in order to achieve a reduction of the air emissions. (Air - minimum efficiency of: 80 %).

Conditions and measures related to sewage treatment plant

- Municipal Sewage Treatment Plant: Yes. [Treatment effectiveness: 85.29 %].
- Discharge rate: ≥2000 m³/d.
- Application of the STP sludge on agricultural soil: Yes.

Contributing scenario controlling worker exposure for other conditions affecting workers exposure:

- Do not ingest.
- Avoid splashing.
- Avoid contact with contaminated tools and objects.

Organisational measures to prevent/limit releases: dispersion and exposure

- Training for staff on good practice.
- Supervision in place to check that the RMMs in place are being used correctly and
- OCs followed.

Cont…

Conditions and measures related to personal protection, hygiene and health evaluation
Advice on general: Good standard of personal hygiene.
Occupational hygiene: Assumes a good basic standard of occupational hygiene is implemented.

Section 3 – SU03 - Exposure estimation and reference to source

Exposure estimation and reference to its source - Environment:
Exposure assessment (environment): EUSES v2.1.2
Exposure estimation:

- Freshwater: 0.00000846 mg/l.
- Risk characterisation ratio (PEC/PNEC): 0.036.
- Freshwater sediment: 0.031 mg/kg dwt.
- Risk characterisation ratio (PEC/PNEC): 0.359.
- Marine water: 0.000000773 mg/l.
- Risk characterisation ratio (PEC/PNEC): 0.033.
- Marine water sediment: 0.00279 mg/kg dwt.
- Risk characterisation ratio (PEC/PNEC): 0.328.
- Sewage Treatment Plant: 0.0000798 mg/l.
- Risk characterisation ratio (PEC/PNEC): <0.01.
- Soil: 0.016 mg/kg dwt.
- Risk characterisation ratio (PEC/PNEC): 0.907.

Remark: Based on the applied RMMs the risk towards environment is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers:
Exposure assessment: Qualitative approach used to conclude safe use.

Section 4 – SU03 - Guidance to work within boundaries set by Exposure Scenarios

General:	The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit their use. The user has to ensure that risks are managed. The risk assessment methods/tools given in section 3 may be used for this evaluation.
Environment:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

Exposure Scenario 2 – SU21 & SU24

SU24

- **Use of Liquid Scintillation Cocktails (scintillation counting in laboratories)**
- **Professional**

Use Descriptors: SU24; SU21, PROC15; ERC09a

Process Category: PROC15

Environmental Release Category: ERC09a

Market sector by type of chemical product: PC21

Environmental contributing scenarios

- **Use of scintillation cocktails (scintillation counting in laboratories) -** ERC09a

Health contributing scenarios

- **Use as laboratory reagent -** PROC15

Section 2 – SU21 & SU24 - Exposure Controls

Contributing scenario controlling environmental exposure for:
Amounts used:

- Daily local widespread use amount: ≤0.000036 tonnes/day.
- Percentage of EU tonnage used at regional scale: 10 %.

Other conditions affecting environmental exposure:

- Release to waste water from process: 0%
- Release to air from process: 0%
- Release to soil from process: 0% (ERC09a)

Conditions and measures related to sewage treatment plant:

- Municipal Sewage Treatment Plant: Treatment effectiveness: 85.29 %.

Contributing scenario controlling worker exposure:

- Do not ingest.
- Avoid splashing.
- Avoid contact with contaminated tools and objects.

Organisational measures to prevent/limit releases dispersion and exposure:

- Training for staff on good practice.
- Supervision in place to check that the RMMs in place are being used correctly and OCs followed

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

Advice on general occupational hygiene

- Good standard of personal hygiene.
- Assumes a good basic standard of occupational hygiene is implemented.

Section 3 – SU21 & SU24 - Exposure estimation and reference to source

Exposure estimation and reference to its source - Environment:
Exposure assessment (environment): EUSES v2.1.2
Exposure estimation:

- Freshwater: 0.000000887 mg/l.
- Risk characterisation ratio (PEC/PNEC): <0.01.
- Freshwater sediment: 0.00321 mg/kg dwt.
- Risk characterisation ratio (PEC/PNEC): 0.038.
- Marine water: 0.000000016 mg/l.
- Risk characterisation ratio (PEC/PNEC): <0.01.
- Marine water sediment: 0.0000579 mg/kg dwt.
- Risk characterisation ratio (PEC/PNEC): <0.01.
- Sewage Treatment Plant: 0 mg/l.
- Risk characterisation ratio (PEC/PNEC): <0.01.
- Soil: 0.0000706 mg/kg dwt.
- Risk characterisation ratio (PEC/PNEC): <0.01.

Remark: Based on the applied RMMs the risk towards environment is sufficiently controlled (RCR < 1).

Exposure estimation and reference to its source - Workers:

Exposure assessment: Qualitative approach used to conclude safe use.

Section 4 – SU21 & SU24 - Guidance to work within boundaries set by Exposure Scenarios

General: The immediate downstream user is required to evaluate whether the operational conditions and risk management measures described in the exposure scenario fit their use. The user has to ensure that risks are managed. The risk assessment methods/tools given in section 3 may be used for this evaluation.

Environment: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

Glossary

ERC: Environmental Release Categories
ES: Exposure Scenario
ESVOC: European Solvents Downstream Users Group
EUSES: European Union System for Evaluation of Substances
OCs: Operational Conditions
PC: Product Category
PEC: *Predicted* Effect Concentration
PNEC: Predicted No-Effect Concentration
PROC: Process Category
RCR: Risk Characterisation Ratio
RMM: Risk Management Measures
SPERC: Specific Environmental Release Categories
STP: Sewage Treatment Plan
SU: Sector of Use