

Trade name:	CRYO SPRAY				
Product code:	08-SPRAY-2	Date of compilation:	14 November 2022	Version:	6


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

1.1.	Product identifier	
	Trade name:	CRYO SPRAY
	Chemical name:	-
	Catalogue number:	08-SPRAY-2
1.2.	Relevant identified uses of the substance or mixture and uses advised against	
	Uses:	For freezing histological samples.
	Uses advised against:	Only the identified uses are advised.
	Reason why uses advised against:	The product is intended for use only as an <i>in vitro</i> diagnostic medical device and there is no reason to use it for other purposes.
1.3.	Details of the supplier of the safety data sheet	
	Supplier:	BioGnost Ltd.
	Address:	Medjugorska 59, Zagreb
	Telephone number:	+385 1 2409997
	Telefax:	+385 1 2404039
	e-mail of competent person:	msds@biognost.hr
	National contact:	-
1.4.	Emergency telephone numbers	
	National Protection and Rescue Directorate:	112
	Medical information:	+385 1 2348 342
	Other information:	-

SECTION 2. Hazards identification

2.1.	Classification of the substance or mixture	
2.1.1.	Classification according to Regulation (EC) No 1272/2008 (CLP)	
	Hazard class and category code:	Hazard statements*:
	Aerosol, cat.1	H222 Extremely flammable aerosol H229 Pressurised container: may burst if heated
2.1.2.	Additional information	
	-	
* For full text of Hazard- and EU Hazard-statements: see SECTION 16		
2.2.	Label elements	
	Product identification:	CRYO SPRAY
	Identification number:	-
	Authorisation number:	-

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Hazard pictograms:	
	GHS02
Signal word:	Danger
Hazard statement:	H222 Extremely flammable aerosol H229 Pressurised container: may burst if heated
Precautionary statements:	P210 Keep away from heat/sparks/open flames/hot surfaces. – Do not smoke P211 Do not spray on an open flame on other ignition source. P251 Do not pierce or burn, even after use. P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F
Supplemental hazard information (EU):	-
2.3.	Other hazards
	No known endocrine disrupting properties. 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

SECTION 3. Composition/information on ingredients

CAS/ EC/ Index number	REACH Registration No	Weight % content (or range)	Identification name	Classification according to Regulation (EC) No 1272/2008 (CLP)
106-97-8/ 203-448-7/ 601-004-00-0	-	50 ≤ x < 100	Butane	Flam. Gas 1; H220 Press. Gas (Liq.) H280
74-98-6/ 200-827-9/ 601-003-00-5	-	9 ≤ x < 30	Propane	Flam. Gas 1; H220 Press. Gas (Liq.) H280

SECTION 4. First aid measures

4.1.	Description of first aid measures	
General notes:	If the suggested first aid measures do not prove sufficient, seek medical attention.	
Following inhalation:	Carry the afflicted person out of the contaminated area into a well-ventilated area or out for fresh air.	

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Following skin contact:	Immediately wash with plenty of water and soap.
Following eye contact:	Rinse out with plenty of water with the eyelid held wide open for at least 15 minutes. If the symptoms remain, immediately call in ophthalmologist.
Following ingestion:	Get medical advice/attention. Induce vomiting only if indicated by the doctor. Do not give anything by mouth to an unconscious person.
Self-protection of the first aider	-

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

Following inhalation:	Specific information on symptoms and effects caused by the product are unknown.
Following skin contact:	Specific information on symptoms and effects caused by the product are unknown.
Following eye contact:	Specific information on symptoms and effects caused by the product are unknown.
Following ingestion:	Specific information on symptoms and effects caused by the product are unknown.

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

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SECTION 5. Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:	CO ₂ , foam, powder and water spray
Unsuitable extinguishing media:	-

5.2. Special hazards arising from the substance or mixture

Hazardous by products of fire:	If overheated, aerosol cans can deform, explode and be propelled considerable distances. Put a protective helmet on before approaching the fire. Do not breathe combustion products.
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5.3. Advice for firefighters

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear.
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5.4. Additional information

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SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment:	Use personal protective equipment (see Section 8).
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	Accident prevention methods:	Evacuate members of all non-essential personnel and those members without protective equipment. Remove all sources of sparks and ignition. Do not smoke.
	Emergency procedures:	Mark the area using proper signs.
6.1.2.	For emergency responders:	
	Normal fire fighting clothing i.e. fire kit (EN 469), gloves (EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (EN 137).	
6.2.	Environmental precautions:	
	Do not dispose in the environment.	
6.3.	Methods and materials for containment and cleaning up	
6.3.1.	Bundling, covering of drains; capping procedures:	Sand or clay barriers.
6.3.2.	Cleaning up:	Use inert absorbent material to soak up leaked product. Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.
6.3.3.	Other information:	Do not use tools that may cause sparks.
6.4.	Reference to other sections	
	Any information on personal protection and disposal is given in sections 8 and 13.	

SECTION 7. HANDLING AND STORAGE

7.1.	Precautions for safe handling	
7.1.1.	Protection measures	
	Measures to prevent fire:	Use in well ventilated storage rooms. Avoid bunching of electrostatic charges. Do not spray on flames or incandescent bodies. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation.
	Measures to prevent aerosol and dust generation:	Secure proper ventilation. Do not breathe spray.
	Measures to protect the environment:	Prevent spilling into the sewage system and waterways.
	Other measures:	-
7.1.2.	Advice on general occupational hygiene:	
	Do not eat, drink or smoke in the workspace. Thoroughly wash hands after work and before eating.	
7.2.	Conditions for safe storage, including any incompatibilities	

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	Technical measures and storage conditions:	Keep in tightly closed and upright set containers in a well ventilated storage rooms.
	Packaging materials:	Manufacturer's original packaging.
	Requirements for storage rooms and vessels:	Store in a place where adequate ventilation is ensured, away from direct sunlight at a temperature below 50°C/122°F, away from any combustion sources.
	Advices for storage equipment:	The storage must be made of hard material; floors must be resistant to chemicals. There must be no drain that directly leads into sewage system. Secure proper ventilation.
	Further information on storage conditions:	Do not place the unused material in the storage room and do not use empty containers for storing other chemicals. Do not store with incompatible materials (see Section 9).
7.3.	Specific end use(s)	
	Recommendations:	-
	Industrial sector specific solutions:	-

SECTION 8. Exposure controls/personal protection					
8.1.	Control parameters				
	Substance	CAS No	Occupational exposure limit values/short term values		Biological limit values
			ppm	mg/m ³	
	Butane	106-97-8	600	1450	-
	Substance:	-			
	EC No:	-	CAS No:	-	
DNEL					
Industrial					
Route of exposure:	Route of exposure:	Route of exposure:	Route of exposure:	Route of exposure:	
Oral	-	-	-	-	
Inhalation	-	-	-	-	
Dermal	-	-	-	-	
Critical physical parameters: solubility, flammability, corrosivity: -					
Consumer					
Route of exposure:	Route of exposure:	Route of exposure:	Route of exposure:	Route of exposure:	

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Oral	-	-	-	-
Inhalation	-	-	-	-
Dermal	-	-	-	-

PNEC

Environmental protection target	PNEC
Fresh water	No information available
Freshwater sediments	No information available
Marine water	No information available
Marine sediments	No information available
Food chain	No information available
Microorganisms in sewage treatment	No information available
Soil (agricultural)	No information available
Air	No information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

	Substance/mixture related measures to prevent exposure during identified uses:	Use the product in well ventilated rooms. Use personal protective equipment. Do not eat, drink or smoke in the workspace.
	Structural measures to prevent exposure:	No information available
	Organisational measures to prevent exposure:	Organization of work in order to reduce other worker's influence during work process.
	Technical measures to prevent exposure:	-

8.2.2. Personal protection equipment:

8.2.2.1.	Eye and face protection:	Wear airtight protective goggles (see standard EN 166).
8.2.2.2.	Skin protection	
	Hand protection:	Non required.
	Other skin protection:	Wear category I professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.
8.2.2.3.	Respiratory protection:	If the threshold value is exceeded for the substance or one of the substances present in the product, a mask with a type AX filter combined with a type P filter should be worn (EN 14387). Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

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8.2.2.4.	Thermal hazards:	No information available
8.2.3.	Environmental exposure controls	
	Substance/mixture related measures to prevent exposure:	See Section 6
	Structural measures to prevent exposure:	Use modern equipment.
	Organisational measures to prevent exposure:	Adapt the work process to the required working conditions of the workplace.
	Technical measures to prevent exposure:	See Section 6

SECTION 9. Physical and chemical properties

9.1.	Information on basic physical and chemical properties		
		Value	Method
	Physical state:	Aerosol	No information available
	Colour:	colourless	No information available
	Odour/odour threshold:	odourless/no information available	No information available
	Melting point / freezing point:	No information available	No information available
	Boiling point or initial boiling point and boiling range:	No information available	No information available
	Flammability:	Not available	No information available
	Lower and upper explosion limit:	9,5% (V/V) 1,8% (V/V)	No information available
	Flash point:	Not available	No information available
	Auto-ignition temperature:	Not available	No information available
	Decomposition temperature:	Not available	No information available
	pH:	7.0	No information available
	Kinematic viscosity:	3,2 bar	No information available
	Solubility:	Not available	No information available
	Partition coefficient n-octanol/water (log value):	0.51	No information available
	Vapour pressure:	3.2 bar	No information available
	Density and/or relative density	Not available	No information available
	Relative vapour density:	Not available	No information available
	Particle characteristics:	Not available	No information available

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9.2.	Other information
	VOC (Directive 2010/75/EC) 100,00% - 5006,00 g/litre VOC (volatile carbon) – 82,35% - 416,69 g/litre

SECTION 10.: Stability and reactivity		
10.1.	Reactivity:	There are no particular risks of reaction with other substances in normal conditions of use.
10.2.	Chemical stability:	The product is stable in normal conditions of use and storage.
10.3.	Possibility of hazardous reactions:	No hazardous reactions are foreseeable in normal conditions of use and storage.
10.4.	Conditions to avoid:	Avoid overheating.
10.5.	Incompatible materials:	Strong reducing or oxidising agents, strong acids or alkalis, hot material.
10.6.	Hazardous decomposition products:	No information available

SECTION 11. Toxicological information					
11.1.	Information on toxicological effects				
	Acute toxicity:				
Route of exposure:	Method	Species	Effective Dose LD ₅₀ /LC ₅₀ or ATE _{mixture}	Exposure time	Results
Oral:	No information available	No information available	No information available	No information available	No information available
Dermal:	No information available	No information available	No information available	No information available	No information available
Inhalation:	No information available	No information available	No information available	No information available	No information available
	Specific target organ toxicity - single exposure (STOT-SE):				
	Specific effects		Target organ		Note
Oral:	No information available		No information available		
Dermal:	No information available		No information available		
Inhalation:	No information available		No information available		
	Aspiration hazard:				
	No information available				
	Irritation and corrosion				
	Exposure time	Species	Evaluation	Method	Note

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Subacute inhalation	No information available	No information available	No information available	No information available	No information available	No information available
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Specific target organ toxicity - repeated exposure (STOT-RE):

	Specific effects	Target organ	Note
Subacute inhalation	No information available	No information available	-
Subchronic oral	No information available	No information available	-
Subchronic dermal	No information available	No information available	-
Subchronic inhalation	No information available	No information available	-
Chronic oral	No information available	No information available	-
Chronic dermal	No information available	No information available	-
Chronic inhalation	No information available	No information available	-
Subacute oral	No information available	No information available	-
Subacute dermal	No information available	No information available	-

CMR effects (carcinogenicity, mutagenicity, reproductive toxicity)

Carcinogenicity:	No information available
Mutagenicity <i>in-vitro</i> :	No information available
Genotoxicity:	No information available
Mutagenicity <i>in-vivo</i> :	No information available
Germ cell mutagenicity :	No information available
Reproductive toxicity:	No information available

Summary of evaluation of the CMR properties; : No information available

11.2. Information on other hazards:

11.2.1. Endocrine disrupting properties:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

11.2.2. Other informations:

According to currently available data, this product has not yet produced health damages. Anyway, it must be handled according to good industrial practices.

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SECTION 12. Ecological information

12.1. Toxicity

Acute (short-term) toxicity	Dose	Exposure time	Species	Method	Evaluation	Note
Fish	LC ₅₀	96 hours	No information available	No information available	No information available	No information available
Crustacea:	EC ₅₀	48 hours	No information available	No information available	No information available	No information available
Algae/aquatic plants:	IC ₅₀	72 hours	No information available	No information available	No information available	No information available
Other organisms	-	-	No information available	No information available	No information available	No information available

Chronic (long-term) toxicity	Doza	Exposure time	Species	Method	Evaluation	Note
Fish	LC ₅₀	96 hours	No information available	No information available	No information available	No information available
Crustacea:	EC ₅₀	48 hours	No information available	No information available	No information available	No information available
Algae/aquatic plants:	IC ₅₀	72 hours	No information available	No information available	No information available	No information available
Other organisms	-	-	No information available	No information available	No information available	No information available

12.2. Persistence and degradability

Abiotic degradation

	Degradation half-lives	Method	Evaluation	Note
Marine water	No information available	No information available	No information available	No information available
Fresh water	No information available	No information available	No information available	No information available
Air	No information available	No information available	No information available	No information available
Soil	No information available	No information available	No information available	No information available

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Biodegradation				
% Degradation	Time (days)	Method	Evaluation	Note
-	-	-	0,1 – 100 mg/l	Butane (solubility in water; rapidly degradable)
-	-	-	0,1 – 100 mg/l	Butane (solubility in water; rapidly degradable)

12.3. Bioaccumulative potential						
Octanol-water partition coefficient (log Kow)						
Value	Concentration	pH	°C	Method	Evaluation	Note
1,09	-	-	-	-	-	Butane
1,09	-	-	-	-	-	Propane

Bioconcentration Factor (BCF)				
Value	Species	Method	Evaluation	Note
No information available	No information available	No information available	No information available	-

Chronic ecotoxicity						
Value	Dose	Exposure time	Species	Method	Evaluation	Note
Chronic toxicity on fish	LC ₅₀	No information available	No information available	No information available	No information available	-
Chronic toxicity on crustacea (Daphnia)	EC ₅₀	No information available	No information available	No information available	No information available	-

12.4. Mobility in soil				
Known or predicted distribution in environmental compartments:				
No information available				
Surface tension:				
Value	°C	Concentration	Method	Note

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	No information available	No information available	No information available	No information available	-

Adsorption / desorption

Transport	A/D coefficient Henry's constant	log Kow	Evaporation rate	Method	Note
Soil-water	No information available	No information available	No information available	No information available	-
Water-air	No information available	No information available	No information available	No information available	-
Soil-air	No information available	No information available	No information available	No information available	-

12.5. Results of PBT and vPvB 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. Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. Other adverse effects

No information available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

13.1.1. Product/Packaging disposal:

Submit for disposal to the legal person authorized by the Ministry of Environmental and Nature Protection.

13.1.2. Waste codes/waste designations according to Low:

No information available

13.1.3. Waste treatment – relevant information:

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	No information available
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13.1.4.	Sewage disposal – relevant information:
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	Waste must not be disposed of into the sewage system.
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13.1.5.	Other disposal recommendations:
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	Do not dispose of the product's remains into the sewage system. Submit the remains to the collectors authorized by the ministry in charge. Do not dispose of the packaging into the sewage system. Submit the packaging to the collectors authorized by the ministry in charge.
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13.1.6.	Relevant Community provisions:
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SECTION 14. Transport information	
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	Transporting/shipment by road (ADR)
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UN number:	1950
UN proper shipping name:	Aerosols, flammable
Transport hazard class(es):	2.1
Packing group:	-
Environmental hazards:	no
Special precautions for user:	-

	Transporting/shipment by rail (RID)
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UN number:	1950
UN proper shipping name:	Aerosols, flammable
Transport hazard class(es):	2.1
Packing group:	-
Environmental hazards:	no
Special precautions for user:	-

	Transporting/shipment by inland waterways (ADN)
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UN number:	1950
UN proper shipping name:	Aerosols, flammable
Transport hazard class(es):	2.1
Packing group:	-
Environmental hazards:	no
Special precautions for user:	-

	Transporting/shipment by sea (IMDG)
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UN number:	1950
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UN proper shipping name:	Aerosols
Transport hazard class(es):	2.1
Packing group:	-
Environmental hazards:	no
Special precautions for user:	-
Transport in bulk according to Annex II of MARPOL73/78 and the IBC code:	-
Transporting/shipment by air (ICAO-TI/IATA-DGR)	
UN number:	1950
UN proper shipping name:	Aerosols, flammable
Transport hazard class(es):	2.1
Packing group:	-
Environmental hazards:	no
Special precautions for user:	-
Further information:	-

SECTION 15. Regulatory information

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

EU regulations

Authorisation and/or restrictions on use

Authorisations:

-

Restrictions:

-

Other EU regulations:

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC;
 Directive 2004/42/CE of the European Parliament and of the Council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC;
 Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work;
 Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006;
 REACH Restrictions on the manufacturing, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII);

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	Information according 1999/13/EC about limitation of emissions of volatile organic compounds (VOC-guideline)			
	National legislation:	Chemicals Act, Regulation on classification, packaging and labeling of dangerous substances, Ordinance on occupational exposure limit values and on biological limit values, Regulation on categories, types and classification of waste with a waste catalog and list of hazardous waste, Ordinance on writing Material safety data sheet, Transport of Hazardous Substances Act		
15.2.	Chemical safety assessment			
	None			

SECTION 16. Other information

16.1.	Indication of changes:			
16.2.	Abbreviations and acronyms:	ADP: Accord relatif au transport international 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 CAS: Chemical Abstracts Service (division of the American Chemical Society) DNEL: Derived No-Effect Level (UK REACH) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative		
16.3.	Key literature references and source of data:	IFA GESTIS website, ECHA		
16.4.	Classification and procedure used to derive the classification for mixture according to Regulation (EC) 1272/2008 (CLP)			
	Classification	Classification procedure		
	-	-		
16.5.	Relevant H statements (number and full text)			
	H:	H220 H222 H229 H280	Extremely flammable gas. Extremely flammable aerosol. Pressurised container: may burst if heated. Contains gas under pressure; may burst if heated.	
16.6.	Training advice:			
	-			
16.7.	Further information:			
	We are not responsible for consequences in case of failure to comply with instructions for use or improper use of the product described in this material safety data sheet.			

ANNEX: Exposure scenario resulting to Chemical safety assessment

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