

SAFETY DATA SHEET

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2020/878



ISOFROST

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

1.1. Product identifier

Product name : ISOFROST
Registration number REACH : Not applicable (mixture)
Product type REACH : Mixture

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

1.2.1 Relevant identified uses

Coolant

1.2.2 Uses advised against

No uses advised against known

1.3. Details of the supplier of the safety data sheet

Supplier of the safety data sheet

Plasma Solutions BV
Poederleesteenweg 108A
2460 Lichtaart
☎ +32 9 330 45 54
info@kjellberg.be

1.4. Emergency telephone number

During business hours :
+32 9 330 45 54

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Not classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

2.2. Label elements

Not classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

Supplemental information

EUH210 Safety data sheet available on request.

2.3. Other hazards

No other hazards known

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to CLP	Note	Remark	M-factors and ATE
propane-1,2-diol	57-55-6 200-338-0	C<20%		(2)	Constituent	

(2) Substance with a Community workplace exposure limit

SECTION 4: First aid measures

4.1. Description of first aid measures

General:

If you feel unwell, consult a doctor/medical service.

After inhalation:

Remove victim into fresh air. In case of respiratory problems, consult a doctor/medical service.

After skin contact:

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Technische Schoolstraat 43 A, B-2440 Geel
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If possible, wipe up/dry remove chemical. Then rinse/shower immediately with (lukewarm) water. If irritation develops, consult a doctor/medical service.

After eye contact:

Rinse immediately with (lukewarm) water. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation develops, consult a doctor/medical service.

After ingestion:

Rinse mouth with water. If you feel unwell, consult a doctor/medical service. Do not wait for symptoms to occur to consult Poison Center.

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

4.2.1 Acute symptoms

After inhalation:

No effects known.

After skin contact:

No effects known.

After eye contact:

No effects known.

After ingestion:

No effects known.

4.2.2 Delayed symptoms

No effects known.

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

If applicable and available it will be listed below.

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.1.1 Suitable extinguishing media:

Small fire: Quick-acting ABC powder extinguisher, Quick-acting BC powder extinguisher, Quick-acting class B foam extinguisher, Quick-acting CO2 extinguisher.

Major fire: Class B foam (alcohol-resistant), Water spray if puddle cannot expand.

5.1.2 Unsuitable extinguishing media:

Small fire: Water (quick-acting extinguisher, reel); risk of puddle expansion.

Major fire: Water; risk of puddle expansion.

5.2. Special hazards arising from the substance or mixture

Upon combustion: formation of CO, CO2 and small quantities of nitrous vapours.

5.3. Advice for firefighters

5.3.1 Instructions:

No specific fire-fighting instructions required.

5.3.2 Special protective equipment for fire-fighters:

Gloves (EN 374). Protective clothing (EN 14605 or EN 13034). Heat/fire exposure: self-contained breathing apparatus (EN 136 + EN 137).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No naked flames. Exposure to fire/heat: keep upwind. Exposure to fire/heat: have neighbourhood close doors and windows.

6.1.1 Protective equipment for non-emergency personnel

See section 8.2

6.1.2 Protective equipment for emergency responders

Gloves (EN 374). Protective clothing (EN 14605 or EN 13034).

Suitable protective clothing

See section 8.2

6.2. Environmental precautions

Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply.

6.3. Methods and material for containment and cleaning up

Take up liquid spill into absorbent material. Scoop absorbed substance into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

6.4. Reference to other sections

See section 13.

SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

7.1. Precautions for safe handling

Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Observe normal hygiene standards. Keep container tightly closed.

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7.2. Conditions for safe storage, including any incompatibilities

7.2.1 Safe storage requirements:

Meet the legal requirements.

7.2.2 Keep away from:

Heat sources.

7.2.3 Suitable packaging material:

No data available

7.2.4 Non suitable packaging material:

No data available

7.3. Specific end use(s)

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 Occupational exposure

a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

Germany

Propylenglykol	Der Stoff kann gleichzeitig als Dampf und Aerosol vorliegen. Vgl. Abschn. lib
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UK

Propane-1,2-diol	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	150 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	10 mg/m ³ (1)
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	474 mg/m ³ (2)

(1) Particulates

(2) Total vapour and particulates

USA (TLV-ACGIH)

Propylene Glycol	Time-weighted average exposure limit 8 h (WEEL)	10 mg/m ³
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b) National biological limit values

If limit values are applicable and available these will be listed below.

8.1.2 Sampling methods

Product name	Test	Number
Propylene Glycol	NIOSH	5523
Propylene Glycol	OSHA	2051

8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

8.1.4 Threshold values

If applicable and available it will be listed below.

8.1.5 Control banding

If applicable and available it will be listed below.

8.2. Exposure controls

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

8.2.1 Appropriate engineering controls

Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

8.2.2 Individual protection measures, such as personal protective equipment

Observe normal hygiene standards. Do not eat, drink or smoke during work.

a) Respiratory protection:

Full face mask with filter type A at conc. in air > exposure limit.

b) Hand protection:

Protective gloves against chemicals (EN 374).

c) Eye protection:

Eye protection not required in normal conditions.

d) Skin protection:

Protective clothing (EN 14605 or EN 13034).

8.2.3 Environmental exposure controls:

See sections 6.2, 6.3 and 13

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical form	Liquid
Colour	No data available on colour
Odour	No data available on odour
Odour threshold	No data available (test not performed)
Melting point	No data available (test not performed)
Boiling point	No data available (test not performed)
Flammability	Not classified as flammable
Explosion limits	No data available (test not performed)
Flash point	No data available (test not performed)
Auto-ignition temperature	No data available (test not performed)
Decomposition temperature	No data available (test not performed)
pH	No data available (test not performed)
Kinematic viscosity	No data available (test not performed)
Dynamic viscosity	No data available (test not performed)
Solubility	No data available (test not performed)
Log Kow	Not applicable (mixture)
Vapour pressure	No data available (test not performed)
Absolute density	No data available (test not performed)
Relative density	No data available (test not performed)
Relative vapour density	No data available (test not performed)
Particle size	Not applicable (liquid)

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Heating increases the fire hazard.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Precautionary measures

Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks.

10.5. Incompatible materials

No data available.

10.6. Hazardous decomposition products

Upon combustion: formation of CO, CO₂ and small quantities of nitrous vapours.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

11.1.1 Test results

Acute toxicity

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No (test)data on the mixture available

Judgement is based on the relevant ingredients

propane-1,2-diol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50		22000 mg/kg		Rat (male / female)	Experimental value	
Dermal	LD50		> 2000 mg/kg bw	24 h	Rabbit	Experimental value	
Inhalation (aerosol)	LC50		> 44.9 mg/l air	4 h	Rat (male / female)	Experimental value	

Conclusion

Not classified for acute toxicity

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Corrosion/irritation

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No (test)data on the mixture available

Judgement is based on the relevant ingredients

propane-1,2-diol

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	OECD 405		24; 48; 72 hours	Rabbit	Experimental value	Single treatment
Skin	Not irritating	OECD 404	4 h	24; 48; 72 hours	Rabbit	Experimental value	

Conclusion

Not classified as irritating to the eyes

Not classified as irritating to the skin

Not classified as irritating to the respiratory system

Respiratory or skin sensitisation

ISOFROST

No (test)data on the mixture available

Judgement is based on the relevant ingredients

propane-1,2-diol

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Dermal (on the ears)	Not sensitizing	Equivalent to OECD 429			Mouse	Experimental value	
Inhalation						Data waiving	

Conclusion

Not classified as sensitizing for skin

Not classified as sensitizing for inhalation

Specific target organ toxicity

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No (test)data on the mixture available

Judgement is based on the relevant ingredients

propane-1,2-diol

Route of exposure	Parameter	Method	Value	Organ/Effect	Exposure time	Species	Value determination	Remark
Oral (diet)	NOAEL	Subchronic toxicity test	1700 mg/kg bw/day	No effect	2 year(s)	Rat (male)	Experimental value	
Oral (diet)	NOAEL	Subchronic toxicity test	2100 mg/kg bw/day	No effect	2 year(s)	Rat (female)	Experimental value	
Dermal	NOAEL		0.02 ml	No effect		Mouse (female)	Experimental value	Lifetime (2x/week)
Inhalation (aerosol)	NOAEC	Subchronic toxicity test	2200 mg/m ³ air	No effect	13 weeks (6h / day, 5 days / week)	Rat (male)	Experimental value	
Inhalation (aerosol)	NOAEC	Subchronic toxicity test	1000 mg/m ³ air	No effect	13 weeks (6h / day, 5 days / week)	Rat (female)	Experimental value	
Inhalation (aerosol)	LOEC	Subchronic toxicity test	160 mg/m ³ air	Nose (nasal bleeding)	13 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value	

Conclusion

Not classified for subchronic toxicity

Mutagenicity (in vitro)

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No (test)data on the mixture available

Judgement is based on the relevant ingredients

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propane-1,2-diol

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S. typhimurium and E. coli)	No effect	Experimental value	
Negative with metabolic activation, negative without metabolic activation	OECD 473	Human lymphocytes	No effect	Experimental value	

Mutagenicity (in vivo)

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No (test)data on the mixture available

Judgement is based on the relevant ingredients

propane-1,2-diol

Result	Method	Exposure time	Test substrate	Organ/Effect	Value determination	Remark
Negative (Oral (stomach tube))	Chromosome aberration assay	5 dose(s)/24-hour interval	Rat (male)	No effect	Experimental value	

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

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No (test)data on the mixture available

Judgement is based on the relevant ingredients

propane-1,2-diol

Route of exposure	Parameter	Method	Value	Organ/Effect	Exposure time	Species	Value determination	Remark
Oral (diet)	NOAEL	Carcinogenic toxicity study	1700 mg/kg bw/day	No carcinogenic effect	104 weeks (daily)	Rat (male)	Experimental value	
Oral (diet)	NOAEL	Carcinogenic toxicity study	2100 mg/kg bw/day	No carcinogenic effect	104 weeks (daily)	Rat (female)	Experimental value	

Conclusion

Not classified for carcinogenicity

Reproductive toxicity

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No (test)data on the mixture available

Judgement is based on the relevant ingredients

propane-1,2-diol

Category	Parameter	Method	Value	Exposure time	Species	Effect	Value determination	Remark
Developmental toxicity (Oral (stomach tube))	NOAEC	Equivalent to OECD 414	10400 mg/kg bw/day	10 days (gestation, daily)	Mouse	Foetus (no effect)	Experimental value	
Maternal toxicity (Oral (stomach tube))	NOAEL	Equivalent to OECD 414	520 mg/kg bw/day	10 days (gestation, daily)	Mouse	No effect	Experimental value	
Effects on fertility (Oral (drinking water))	NOAEL	NTP continuous breeding protocol	10100 mg/kg bw/day		Mouse (male / female)	No effect	Experimental value	

Conclusion

Not classified for reprotoxic or developmental toxicity

Aspiration hazard

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Judgement is based on the relevant ingredients

Not classified for aspiration toxicity

Toxicity other effects

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No (test)data on the mixture available

Chronic effects from short and long-term exposure

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No effects known.

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11.2. Information on other hazards

No evidence of endocrine disrupting properties

SECTION 12: Ecological information

12.1. Toxicity

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No (test)data on the mixture available

Judgement of the mixture is based on the relevant ingredients

propane-1,2-diol

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50		40613 mg/l	96 h	Oncorhynchus mykiss	Static system	Fresh water	Experimental value; Measured concentration
Acute toxicity crustacea	LC50	EPA 600/4-90/027	18340 mg/l	48 h	Ceriodaphnia dubia	Static system	Fresh water	Experimental value; Measured concentration
Toxicity algae and other aquatic plants	ErC50	OECD 201	24200 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; GLP
	NOEC	OECD 201	15000 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
Long-term toxicity aquatic crustacea	NOEC	EPA 600/4-89/001	13020 mg/l	7 day(s)	Ceriodaphnia sp.	Semi-static system	Fresh water	Experimental value; Reproduction
Toxicity aquatic micro-organisms	NOEC		> 20000 mg/l	18 h	Pseudomonas putida		Fresh water	Experimental value; Growth inhibition

Conclusion

Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008

12.2. Persistence and degradability

propane-1,2-diol

Biodegradation water

Method	Value	Duration	Value determination
OECD 301F	82 %; Carbon dioxide	28 day(s)	Experimental value

Conclusion

Water

Contains non readily biodegradable component(s)

12.3. Bioaccumulative potential

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Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

propane-1,2-diol

Log Kow

Method	Remark	Value	Temperature	Value determination
EU Method A.8		-1.1	20.5 °C	Experimental value

Conclusion

Does not contain bioaccumulative component(s)

12.4. Mobility in soil

propane-1,2-diol

(log) Koc

Parameter	Method	Value	Value determination
log Koc		0.46	Calculated value

Conclusion

Contains component(s) with potential for mobility in the soil

12.5. Results of PBT and vPvB assessment

Does not contain component(s) that meet(s) the criteria of PBT and/or vPvB as listed in Annex XIII of Regulation (EC) No 1907/2006.

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties

12.7. Other adverse effects

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Greenhouse gases

None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EU) No 2024/573)

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 2024/590)

propane-1,2-diol

Greenhouse gases

Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 2024/573)

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 2024/590)

Groundwater

Groundwater pollutant

SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

13.1. Waste treatment methods

13.1.1 Provisions relating to waste

European Union

Can be considered as non hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997. The waste code must be assigned by the user, preferably in consultation with the (environmental) authorities concerned.

13.1.2 Disposal methods

Remove waste in accordance with local and/or national regulations. Do not discharge into drains or the environment. Dispose of at authorized waste collection point.

13.1.3 Packaging/Container

No data available

SECTION 14: Transport information

Road (ADR), Rail (RID), Inland waterways (ADN), Sea (IMDG/IMSBC), Air (ICAO-TI/IATA-DGR)

14.1. UN number or ID number

Transport	Not subject
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14.2. UN proper shipping name

14.3. Transport hazard class(es)

Hazard identification number	
Class	
Classification code	

14.4. Packing group

Packing group	
Labels	

14.5. Environmental hazards

Environmentally hazardous substance mark	no
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14.6. Special precautions for user

Special provisions	
Limited quantities	

14.7. Maritime transport in bulk according to IMO instruments

Annex II of MARPOL 73/78	Not applicable, based on available data
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SECTION 15: Regulatory information

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

European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
0 %	

Directive 2012/18/EU (Seveso III)

Not subject to registration according to Directive 2012/18/EU (Seveso III)

REACH Candidate list

Does not contain component(s) included in candidate list of substances of very high concern (SVHC) for authorisation (Article 59 of Regulation (EC) No 1907/2006)

REACH Annex XIV - Authorisation

Does not contain component(s) included in Annex XIV of Regulation (EC) No 1907/2006: list of substances subject to authorisation

REACH Annex XVII - Restriction

Does not contain component(s) subject to restrictions of Annex XVII of Regulation (EC) No 1907/2006: restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

National legislation Belgium

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No data available

National legislation The Netherlands

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Waterbezwaarlijkheid	B (4); Algemene Beoordelingsmethodiek (ABM)
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National legislation France

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No data available

National legislation Germany

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WGK	1; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) - 18. April 2017
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propane-1,2-diol

TA-Luft	5.2.5
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National legislation Austria

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No data available

National legislation United Kingdom

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No data available

Other relevant data

ISOFROST

No data available

15.2. Chemical safety assessment

No chemical safety assessment is required for a mixture.

SECTION 16: Other information

Full text of any H- and EUH-statements referred to under section 3:

EUH210 Safety data sheet available on request.

(*)	INTERNAL CLASSIFICATION BY BIG
ADI	Acceptable daily intake
AOEL	Acceptable operator exposure level
ATE	Acute Toxicity Estimate
BCF	Bioconcentration Factor
BEI	Biological Exposure Indices
CLP (EU-GHS)	Classification, labelling and packaging (Globally Harmonised System in Europe)
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
EC10	Effect Concentration 10 %
EC50	Effect Concentration 50 %
ErC50	EC50 in terms of reduction of growth rate
GLP	Good Laboratory Practice
LC0	Lethal Concentration 0 %
LC50	Lethal Concentration 50 %
LD50	Lethal Dose 50 %
LOAEC/LOAEL	Lowest Observed Adverse Effect Concentration/Lowest Observed Adverse Effect Level
NOAEC/NOAEL	No Observed Adverse Effect Concentration/No Observed Adverse Effect Level
NOEC/NOEL	No Observed Effect Concentration/No Observed Effect Level
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, Bioaccumulative & Toxic
PNEC	Predicted No Effect Concentration
STP	Sludge Treatment Process
vPvB	very Persistent & very Bioaccumulative

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet is only to be used within the European Union, Switzerland, Iceland, Norway and Liechtenstein. Any use outside of this area is at your own risk. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of BIG. All intellectual property rights to this sheet are the property of BIG and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.

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