

*SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006***DES-F (BE-REG-00659)**

Version 2.0

Print Date 08.08.2023

Revision date / valid from 13.09.2022

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Trade name : DES-F (BE-REG-00659)
REACH Status : Each component of the product is either registered or exempted from registration obligations according to REACH Regulation (EC) No 1907/2006

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

Use of the Substance/Mixture : Biocide
Uses advised against : At this moment we have not identified any uses advised against

1.3. Details of the supplier of the safety data sheet

Company : Brenntag N.V.
Nijverheidslaan 38
BE 8540 Deerlijk
Telephone : +32 (0)56 77 6944
Telefax : +32 (0)56 77 5711
E-mail address : info@brenntag.be
Responsible/issuing person : Master Data Administration

Company : Brenntag Nederland B.V.
Donker Duyvisweg 44
NL 3316 BM Dordrecht
Telephone : +31 (0)78 65 44 944
Telefax : +31 (0)78 65 44 919
E-mail address : info@brenntag.nl
Responsible/issuing person : Master Data Administration

1.4. Emergency telephone number

Emergency telephone number : Belgium: Antipoison Center - Brussels TEL: +32(0)70 245 245
Netherlands: National Poisoning Information Center - Bilthoven
TEL: +31(0) 88 755 8000 (Only for the purpose of informing medical personnel in cases of acute intoxications)

DES-F (BE-REG-00659)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

REGULATION (EC) No 1272/2008			
Hazard class	Hazard category	Target Organs	Hazard statements
Acute toxicity (Oral)	Category 4	---	H302
Acute toxicity (Dermal)	Category 3	---	H311
Acute toxicity (Inhalation)	Category 3	---	H331
Skin corrosion	Sub-category 1B	---	H314
Serious eye damage	Category 1	---	H318
Skin sensitisation	Category 1	---	H317
Germ cell mutagenicity	Category 2	---	H341
Carcinogenicity	Category 1B	---	H350
Specific target organ toxicity - single exposure	Category 2	Eyes, Central nervous system	H371
Specific target organ toxicity - single exposure	Category 3	Respiratory system	H335

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

Most important adverse effects

Human Health : No further information available.
 Physical and chemical hazards : No further information available.
 Potential environmental effects : No further information available.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard symbols :



Signal word : Danger

Hazard statements : H302 Harmful if swallowed.
 H311 Toxic in contact with skin.
 H314 Causes severe skin burns and eye damage.

DES-F (BE-REG-00659)

	H317	May cause an allergic skin reaction.
	H331	Toxic if inhaled.
	H341	Suspected of causing genetic defects.
	H350	May cause cancer.
	H371	May cause damage to organs.
Precautionary statements		
Prevention	: P201 P260 P280	Obtain special instructions before use. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response	: P301 + P310 + P331 P303 + P361 + P353 + P310 P305 + P351 + P338 + P310 P308 + P313	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. Immediately call a POISON CENTER/ doctor. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor. IF exposed or concerned: Get medical advice/ attention.

Additional Labelling:

EUH071 Corrosive to the respiratory tract.

Hazardous components which must be listed on the label:

- formaldehyde
- methanol

2.3. Other hazards

DES-F (BE-REG-00659)

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. 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.

Ecological information: 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.

Toxicological information: 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.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components	Amount [%]	Classification (REGULATION (EC) No 1272/2008)	
		Hazard class / Hazard category	Hazard statements
formaldehyde			
Index-No. : 605-001-00-5	>= 30 - < 50	Acute Tox.2 Inhalation	H330
CAS-No. : 50-00-0		Acute Tox.3 Oral	H301
EC-No. : 200-001-8		Acute Tox.3 Dermal	H311
EU REACH- : 01-2119488953-20-xxxx		Skin Corr.1B	H314
Reg. No.		Eye Dam.1	H318
		Skin Sens.1A	H317
		Muta.2	H341
		Carc.1B	H350
		STOT SE3	H335
			specific concentration limit
		Eye Irrit. 2; H319	
		5 - < 25 %	
		Skin Irrit. 2; H315	
		5 - < 25 %	
		STOT SE 3; H335	
		>= 5 %	
		Skin Corr. 1B; H314	
		>= 25 %	
		Skin Sens. 1; H317	
		>= 0,2 %	
		Acute toxicity estimate	
		Acute oral toxicity: 100 mg/kg	
		Acute inhalation toxicity (gas):	
		100 ppm	
		Acute dermal toxicity: 270	
		mg/kg	
		Note B	
		Note D	
methanol			
Index-No. : 603-001-00-X	>= 3 - < 10	Flam. Liq.2	H225
CAS-No. : 67-56-1		Acute Tox.3 Inhalation	H331
EC-No. : 200-659-6		Acute Tox.3 Dermal	H311

DES-F (BE-REG-00659)

EU REACH- : 01-2119433307-44-xxxx
Reg. No.

Acute Tox.3 Oral H301
STOT SE1 H370

specific concentration limit
STOT SE 2; H371
3 - < 10 %
STOT SE 1; H370
>= 10 %

Acute toxicity estimate
Acute oral toxicity: 100 mg/kg
Acute inhalation toxicity
(vapour): 3 mg/l
Acute dermal toxicity: 300
mg/kg

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

SECTION 4: First aid measures

4.1. Description of first aid measures

- | | |
|-------------------------|--|
| General advice | : First aider needs to protect himself. Remove from exposure, lie down. Take off all contaminated clothing immediately. |
| If inhaled | : Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Oxygen, if needed. No artificial respiration, mouth-to-mouth or mouth to nose. Use suitable instruments/apparatus. Call a physician immediately. |
| In case of skin contact | : Wash off immediately with soap and plenty of water. Call a physician immediately. |
| In case of eye contact | : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult an eye specialist immediately. Go to an ophthalmic hospital if possible. |
| If swallowed | : Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician immediately. |

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

- | | |
|----------|--|
| Symptoms | : See Section 11 for more detailed information on health effects and symptoms. |
| Effects | : Extremely corrosive and destructive to tissue. If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach. See Section 11 for more detailed information on health effects and symptoms. |

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

DES-F (BE-REG-00659)

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
 Unsuitable extinguishing media : High volume water jet

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting : Incomplete combustion may form toxic pyrolysis products.
 Hazardous combustion products : Carbon monoxide, Carbon dioxide (CO₂), The formation of caustic fumes is possible.

5.3. Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Wear appropriate body protection (full protective suit)
 Specific extinguishing methods : Control smoke with water spray.
 Further advice : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions : Keep away unprotected persons. Use personal protective equipment. Ensure adequate ventilation. Avoid contact with the skin and the eyes. Do not breathe vapours or spray mist.

6.2. Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

6.3. Methods and materials for containment and cleaning up

Methods and materials for containment and cleaning up : Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Keep in suitable, closed containers for disposal.
 Further information : Treat recovered material as described in the section "Disposal"

DES-F (BE-REG-00659)

considerations".

6.4. Reference to other sections

See Section 1 for emergency contact information.
 See Section 8 for information on personal protective equipment.
 See Section 13 for waste treatment information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling : Keep container tightly closed. Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Use respirator with appropriate filter if vapours or aerosol are released. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately. Keep working clothes separately.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container. Keep locked up or in an area accessible only to qualified or authorised persons.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Further information on storage conditions : Keep tightly closed in a dry and cool place. Keep in a well-ventilated place.

Advice on common storage : Keep away from food, drink and animal feedingstuffs.

7.3. Specific end use(s)

Specific use(s) : No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Component:	formaldehyde	CAS-No. 50-00-0
-------------------	---------------------	------------------------

Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)

DES-F (BE-REG-00659)

DNEL	Workers, Long-term - systemic effects, Inhalation	: 9 mg/m ³
DNEL	Workers, Long-term - local effects, Inhalation	: 0,375 mg/m ³
DNEL	Workers, Acute - local effects, Inhalation	: 0,75 mg/m ³
DNEL	Workers, Long-term - systemic effects, Dermal	: 240 mg/kg bw/day
DNEL	Workers, Long-term - local effects, Dermal	: 0,037 mg/cm ²
DNEL	Consumers, Long-term - systemic effects, Inhalation	: 3,2 mg/m ³
DNEL	Consumers, Long-term - local effects, Inhalation	: 0,1 mg/m ³
DNEL	Consumers, Long-term - systemic effects, Dermal	: 102 mg/kg bw/day
DNEL	Consumers, Long-term - local effects, Dermal	: 0,012 mg/cm ²
DNEL	Consumers, Long-term - systemic effects, Oral	: 4,1 mg/kg bw/day

Predicted No Effect Concentration (PNEC)

Fresh water	: 0,44 mg/l
Marine water	: 0,44 mg/l
Intermittent releases	: 4,44 mg/l
Sewage treatment plant (STP)	: 0,19 mg/l
Fresh water sediment	: 2,3 mg/kg
Marine sediment	: 2,3 mg/kg
Soil	: 0,2 mg/kg

Component: formaldehyde **CAS-No.** 50-00-0

Other Occupational Exposure Limit Values

DES-F (BE-REG-00659)

Belgium. OELs. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1, as amended, Short Term Exposure Limit (STEL):
0,3 ppm, 0,38 mg/m³, (15 minutes)

EU. OELs for Certain Carcinogens, Mutagens, Reprotoxins: Annex III, Directive 2004/37/EC (CMRD), as amended, Short Term Exposure Limit (STEL):
0,74 mg/m³

EU. OELs for Certain Carcinogens, Mutagens, Reprotoxins: Annex III, Directive 2004/37/EC (CMRD), as amended, Short Term Exposure Limit (STEL):
0,6 ppm

EU. OELs for Certain Carcinogens, Mutagens, Reprotoxins: Annex III, Directive 2004/37/EC (CMRD), as amended, Time Weighted Average (TWA):
0,3 ppm, 0,37 mg/m³

EU. OELs for Certain Carcinogens, Mutagens, Reprotoxins: Annex III, Directive 2004/37/EC (CMRD), as amended, Time Weighted Average (TWA):
0,5 ppm, 0,62 mg/m³

Netherlands. OELs (binding), as amended, Short Term Exposure Limit (STEL):
0,5 mg/m³, (15 minutes)

Netherlands. OELs (binding), as amended, Time Weighted Average (TWA):
0,15 mg/m³

EU. OELs for Certain Carcinogens, Mutagens, Reprotoxins: Annex III, Directive 2004/37/EC (CMRD), as amended, Short Term Exposure Limit (STEL):
0,74 mg/m³

EU. OELs for Certain Carcinogens, Mutagens, Reprotoxins: Annex III, Directive 2004/37/EC (CMRD), as amended, Short Term Exposure Limit (STEL):
0,6 ppm

EU. OELs for Certain Carcinogens, Mutagens, Reprotoxins: Annex III, Directive 2004/37/EC (CMRD), as amended, Time Weighted Average (TWA):
0,3 ppm, 0,37 mg/m³

EU. OELs for Certain Carcinogens, Mutagens, Reprotoxins: Annex III, Directive 2004/37/EC (CMRD), as amended, Time Weighted Average (TWA):
0,5 ppm, 0,62 mg/m³

Component:	formaldehyde	CAS-No. 50-00-0
-------------------	---------------------	------------------------

Other Occupational Exposure Limit Values

Belgium. OELs. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1, as amended, Short Term Exposure Limit (STEL):
0,3 ppm, 0,38 mg/m³, (15 minutes)

EU. OELs for Certain Carcinogens, Mutagens, Reprotoxins: Annex III, Directive 2004/37/EC (CMRD), as amended, Short Term Exposure Limit (STEL):
0,74 mg/m³

EU. OELs for Certain Carcinogens, Mutagens, Reprotoxins: Annex III, Directive 2004/37/EC

DES-F (BE-REG-00659)

(CMRD), as amended, Short Term Exposure Limit (STEL):
0,6 ppm

EU. OELs for Certain Carcinogens, Mutagens, Reprotoxins: Annex III, Directive 2004/37/EC (CMRD), as amended, Time Weighted Average (TWA):
0,3 ppm, 0,37 mg/m³

EU. OELs for Certain Carcinogens, Mutagens, Reprotoxins: Annex III, Directive 2004/37/EC (CMRD), as amended, Time Weighted Average (TWA):
0,5 ppm, 0,62 mg/m³

Netherlands. OELs (binding), as amended, Short Term Exposure Limit (STEL):
0,5 mg/m³, (15 minutes)

Netherlands. OELs (binding), as amended, Time Weighted Average (TWA):
0,15 mg/m³

EU. OELs for Certain Carcinogens, Mutagens, Reprotoxins: Annex III, Directive 2004/37/EC (CMRD), as amended, Short Term Exposure Limit (STEL):
0,74 mg/m³

EU. OELs for Certain Carcinogens, Mutagens, Reprotoxins: Annex III, Directive 2004/37/EC (CMRD), as amended, Short Term Exposure Limit (STEL):
0,6 ppm

EU. OELs for Certain Carcinogens, Mutagens, Reprotoxins: Annex III, Directive 2004/37/EC (CMRD), as amended, Time Weighted Average (TWA):
0,3 ppm, 0,37 mg/m³

EU. OELs for Certain Carcinogens, Mutagens, Reprotoxins: Annex III, Directive 2004/37/EC (CMRD), as amended, Time Weighted Average (TWA):
0,5 ppm, 0,62 mg/m³

Component:	methanol	CAS-No. 67-56-1
-------------------	-----------------	------------------------

Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)

DNEL	Workers, short-term, Long-term - systemic effects, Skin contact	: 20 mg/kg bw/day
DNEL	Workers, short-term, Long-term - systemic effects, Inhalation	: 130 mg/m ³
DNEL	Workers, short-term, Long-term - local effects, Inhalation	: 130 mg/m ³
DNEL	Consumers, short-term, Long-term - systemic effects, Skin contact	: 4 mg/kg bw/day
DNEL	Consumers, short-term, Long-term - systemic effects,	: 26 mg/m ³

DES-F (BE-REG-00659)

Inhalation

DNEL

Consumers, short-term, Long-term - systemic effects, Ingestion : 4 mg/kg bw/day

DNEL

Consumers, short-term, Long-term - local effects, Inhalation : 26 mg/m³

Predicted No Effect Concentration (PNEC)

Fresh water : 20 mg/l

Marine water : 2,08 mg/l

Sewage treatment plant (STP) : 100 mg/l

Marine sediment : 7,7 mg/kg dry weight (d.w.)

Soil : 100 mg/kg wwt

Component:	methanol	CAS-No. 67-56-1
-------------------	-----------------	------------------------

Other Occupational Exposure Limit Values

EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Time Weighted Average (TWA):
200 ppm, 260 mg/m³
Indicative

Belgium. OELs. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1, as amended, Time Weighted Average (TWA):
200 ppm, 266 mg/m³

Belgium. OELs. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1, as amended, Skin designation:
Can be absorbed through the skin.

Belgium. OELs. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1, as amended, Short Term Exposure Limit (STEL):
250 ppm, 333 mg/m³, (15 minutes)

Netherlands. OELs (binding), as amended, Skin designation:
Can be absorbed through the skin.

Netherlands. OELs (binding), as amended, Time Weighted Average (TWA):
133 mg/m³

EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Time Weighted Average (TWA):
200 ppm, 260 mg/m³
Indicative

DES-F (BE-REG-00659)

Component:	methanol	CAS-No. 67-56-1
-------------------	-----------------	------------------------

Other Occupational Exposure Limit Values

EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Time Weighted Average (TWA):
200 ppm, 260 mg/m³
Indicative

Belgium. OELs. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1, as amended, Time Weighted Average (TWA):
200 ppm, 266 mg/m³

Belgium. OELs. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1, as amended, Skin designation:
Can be absorbed through the skin.

Belgium. OELs. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1, as amended, Short Term Exposure Limit (STEL):
250 ppm, 333 mg/m³, (15 minutes)

Netherlands. OELs (binding), as amended, Skin designation:
Can be absorbed through the skin.

Netherlands. OELs (binding), as amended, Time Weighted Average (TWA):
133 mg/m³

EU. Indicative Occupational Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, as amended, Time Weighted Average (TWA):
200 ppm, 260 mg/m³
Indicative

8.2. Exposure controls

Appropriate engineering controls

Refer to protective measures listed in sections 7 and 8.

Personal protective equipment

Respiratory protection

Advice : In case of brief exposure or low pollution use breathing filter apparatus.
In case of intensive or longer exposure use self-contained breathing apparatus.
Respiratory protection complying with EN 141.
Recommended Filter type:AX

Filter Type : Organic gas and low boiling vapour type

Hand protection

Advice : Protective gloves complying with EN 374.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

DES-F (BE-REG-00659)

Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Protective gloves should be replaced at first signs of wear.

Material : Nitrile rubber
Break through time : > 480 min
Glove thickness : 0,4 mm

Eye protection

Advice : Safety goggles
Face-shield

Skin and body protection

Advice : Wear appropriate chemical resistant clothing and boots.
Equipment should conform to EN 14605

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.
If the product contaminates rivers and lakes or drains inform respective authorities.
If material reaches soil inform authorities responsible for such cases.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Form : No data available
Physical state : liquid
Colour : colourless, clear
Odour : formaldehyde-like
Odour Threshold : 0,5 ppm
Freezing point : No data available
Boiling point/boiling range : 95,9 °C
Flammability : No data available
Upper explosion limit / Upper flammability limit : No data available
Lower explosion limit / Lower flammability limit : No data available

DES-F (BE-REG-00659)

Flash point	: 67 °C
Auto-ignition temperature	: 430 °C
Decomposition temperature	: No data available
Self-Accelerating decomposition temperature (SADT)	: No data available
pH	: 2,8 - 3,8 Concentration: 100 %
Viscosity	
Viscosity, dynamic	: 2,2 mPa.s (20 °C)
Viscosity, kinematic	: No data available
Flow time	: No data available
Solubility(ies)	
Water solubility	: soluble
Solubility in other solvents	: No data available
Dissolution Rate	: No data available
Partition coefficient: n-octanol/water	: log Pow: 0,35
Dispersion Stability	: No data available
Vapour pressure	: 31 hPa
Relative density	: No data available
Density	: 1,093 g/cm ³
Bulk density	: No data available
Relative vapour density	: No data available
Particle characteristics	: No data available

9.2 Other information

Explosives	: no explosive properties predicted from the structure
Oxidizing properties	: No oxidising properties

SECTION 10: Stability and reactivity

10.1. Reactivity

DES-F (BE-REG-00659)

Advice : No specific test data related to reactivity available for this product or its ingredients.

10.2. Chemical stability

Advice : Polymerizes at temperatures below the recommended storage temperature. Polymer precipitation can occur when cooling.

10.3. Possibility of hazardous reactions

Hazardous reactions : Exothermic reaction with: Amines Ammonia Phenol

10.4. Conditions to avoid

Conditions to avoid : No specific data.

10.5. Incompatible materials

Materials to avoid : Amines, Ammonia, Phenol

10.6. Hazardous decomposition products

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Data for the product

Acute toxicity

Oral

Acute toxicity estimate : 212,77 mg/kg) (Calculation method) Harmful if swallowed.
 Acute toxicity estimate : 224,72 mg/kg) (Calculation method)

Inhalation

Acute toxicity estimate : 1,28 mg/l (4 h; vapour) (Calculation method) Toxic if inhaled.
 Acute toxicity estimate : 1,29 mg/l (4 h; vapour) (Calculation method)

Dermal

Acute toxicity estimate : 586,32 mg/kg) (Calculation method) Toxic in contact with skin.
 Acute toxicity estimate : 616,44 mg/kg) (Calculation method)

Irritation

Skin

DES-F (BE-REG-00659)

Result : Causes severe skin burns and eye damage.

Eyes

Result : Causes serious eye damage.

Sensitisation

Result : May cause an allergic skin reaction.

CMR effects

CMR Properties

Carcinogenicity : May cause cancer.
 Mutagenicity : Suspected of causing genetic defects.
 Teratogenicity : Based on available data, the classification criteria are not met.
 Reproductive toxicity : No data available

Specific Target Organ Toxicity

Single exposure

Remarks : May cause damage to organs.

Repeated exposure

Remarks : Based on available data, the classification criteria are not met.

Other toxic properties

Repeated dose toxicity

No data available

Aspiration hazard

Based on available data, the classification criteria are not met.,

Component: formaldehyde CAS-No. 50-00-0

Acute toxicity

Oral

Acute toxicity estimate : 100 mg/kg (Rat) (Expert judgement)

Inhalation

Acute toxicity estimate : 100 ppm (4 h; gas) (Calculation method)

DES-F (BE-REG-00659)**Dermal**

LD50 : 270 mg/kg (Rabbit)

Irritation**Skin**

Result : Corrosive (Rabbit) (OECD Test Guideline 404)

Eyes

Result : Irreversible damage. (Rabbit)

SensitisationResult : Causes sensitisation. (Local lymph node test; Dermal; Mouse)
(OECD Test Guideline 429)**CMR effects****Carcinogenicity**

(positive, Rat)(Inhalation; 28 Months)

CMR Properties

Carcinogenicity : Animal testing showed carcinogenic effects.
Mutagenicity : In vitro tests showed mutagenic effects
In vivo tests showed mutagenic effects
Teratogenicity : No data available
Reproductive toxicity : Based on available data, the classification criteria are not met.

Genotoxicity in vitroResult : positive (Bacterial Reverse Mutation Test) (OECD Test Guideline 471)
positive (Chromosome aberration test in vitro)**Genotoxicity in vivo**

Result : positive (In vivo micronucleus test; Rat) (by inhalation;)

Teratogenicity

(Embryo-foetal development; Rat)(inhalation (gas))negative

DES-F (BE-REG-00659)

Specific Target Organ Toxicity

Single exposure

Remarks : May cause respiratory irritation.

Repeated exposure

Remarks : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Other toxic properties

Repeated dose toxicity

NOAEL : 6 ppm
 LOAEL : 10 ppm
 (Rat)(Inhalation; 28-day)

Aspiration hazard

No aspiration toxicity classification,

Component: **methanol** **CAS-No. 67-56-1**

Acute toxicity

Oral

Toxic if swallowed.

Inhalation

Toxic if inhaled.

Dermal

Toxic in contact with skin.

Irritation

Skin

Result : No skin irritation (Rabbit) (BASF - Test)

Eyes

DES-F (BE-REG-00659)

Result : No eye irritation (Rabbit) (OECD Test Guideline 405)

Sensitisation

Result : not sensitizing (Maximisation Test; Guinea pig) (OECD Test Guideline 406)

CMR effects

CMR Properties

Carcinogenicity : Animal testing did not show any carcinogenic effects.
 Mutagenicity : In vitro tests did not show mutagenic effects
 In vivo tests did not show mutagenic effects
 Teratogenicity : Not classified due to data which are conclusive although insufficient
 Reproductive toxicity : Not classified due to data which are conclusive although insufficient

Genotoxicity in vivo

Result : negative (in vivo assay; Mammalian-Animal)

Teratogenicity

NOAEL Teratog. : 1,3 mg/L
 (Rat)
 NOAEL Teratog. : 2,39 mg/L
 (Monkey)

Reproductive toxicity

NOAEL Parent : 1,33 mg/L
 (Rat)

Specific Target Organ Toxicity

Single exposure

Remarks : Target Organs: Eyes, Central nervous system Causes damage to organs. Experience with human exposure

Repeated exposure

Remarks : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

DES-F (BE-REG-00659)

Other toxic properties

Repeated dose toxicity

LOAEL	:	2340 mg/kg bw/day (Monkey, male)(Oral) (No guideline available); Subacute toxicity
NOAEL	:	1,06 mg/l (Rat)(Inhalation)

Aspiration hazard

No aspiration toxicity classification,

Further information

Other relevant toxicity information : Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
 Danger by skin absorption.
 Effects due to ingestion may include:
 Risk of blindness!
 Vomiting
 Nausea
 Coma

11.2. Information on other hazards

Data for the product

Endocrine disrupting properties

Assessment : 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.

Component:	formaldehyde	CAS-No. 50-00-0
-------------------	---------------------	------------------------

Endocrine disrupting properties

Assessment	:	No information available about endocrine disruption properties for human health.
------------	---	--

Component:	methanol	CAS-No. 67-56-1
-------------------	-----------------	------------------------

Endocrine disrupting properties

Assessment	:	No information available about endocrine disruption properties for human health.
------------	---	--

SECTION 12: Ecological information

DES-F (BE-REG-00659)

12.1. Toxicity

Data for the product

Acute toxicity

Short-term (acute) aquatic hazard

Result : Based on available data, the classification criteria are not met.

Chronic toxicity

Long-term (chronic) aquatic hazard

Result : Based on available data, the classification criteria are not met.

Component: formaldehyde CAS-No. 50-00-0

Acute toxicity

Fish

LC50 : 6,7 mg/l (Morone saxatilis (Striped bass); 96 h) (static test; No guideline followed)

Toxicity to daphnia and other aquatic invertebrates

EC50 : 5,8 mg/l (Daphnia pulex (Water flea); 48 h) (OECD Test Guideline 202)

algae

EC50 : 4,89 mg/l (Desmodesmus subspicatus; 72 h) (OECD Test Guideline 201)

Bacteria

EC50 : 34,1 mg/l (Microorganisms; 120 h)

Chronic toxicity

Fish

NOEC : >= 48 mg/l (Oryzias latipes (Orange-red killifish); 28 d)

DES-F (BE-REG-00659)

Aquatic invertebrates

NOEC : $\geq 6,4$ mg/l (Daphnia magna (Water flea); 21 d) (OECD Test Guideline 211)

Component: methanol CAS-No. 67-56-1

Acute toxicity

Fish

LC50 : 15.400 mg/l (Lepomis macrochirus; 96 h) (flow-through test; EPA 600/3-75/009)

Toxicity to daphnia and other aquatic invertebrates

EC50 : > 1.000 mg/l (Daphnia magna (Water flea); 48 h) (OECD Test Guideline 202)

algae

EC50 : 22000 mg/l (Pseudokirchneriella subcapitata (green algae); 96 h)

Bacteria

EC50 : 20000 mg/l (Bacteria; 15 h)
 IC50 : 1000 mg/l (Bacteria; 24 h)
 IC50 : > 1000 mg/l (activated sludge; 3 h)

Chronic toxicity

Fish

NOEC : 7900 mg/l (Fish; 200 h)

12.2. Persistence and degradability

Data for the product

Persistence and degradability

Biodegradability

Result : Readily biodegradable

Component: formaldehyde CAS-No. 50-00-0

Persistence and degradability

DES-F (BE-REG-00659)

Persistence

Result : No data available

Biodegradability

Result : 91 % (aerobic; activated sludge; Exposure Time: 14 d)(OECD Test Guideline 301C)Readily biodegradable.Read-across (Analogy)

Component: methanol CAS-No. 67-56-1

Persistence and degradability

Persistence

Result : study scientifically unjustified

Biodegradability

Result : 97 % (Marine water; Exposure Time: 20 d)Readily biodegradable.

Result : 95 % (Fresh water; Exposure Time: 20 d)

Result : 83 - 91 % (Fresh water sediment; Exposure Time: 3 d)

Result : 71,5 % (Fresh water; Exposure Time: 5 d)

Result : 69 % (Marine water; Exposure Time: 5 d)

Result : 46,3 - 53,5 % (Soil; Exposure Time: 5 d)

12.3. Bioaccumulative potential

Data for the product

Bioaccumulation

Result : The product has low potential bioaccumulation.

Component: formaldehyde CAS-No. 50-00-0

Bioaccumulation

Result : log Kow 0,35 (25 °C) (Program KOWWIN)

: Does not bioaccumulate.

Component: methanol CAS-No. 67-56-1

Bioaccumulation

Result : log Kow -0,77

: BCF: < 10; The product has low potential bioaccumulation.

12.4. Mobility in soil

DES-F (BE-REG-00659)

Data for the product

Mobility

Result : No data available

Component: formaldehyde **CAS-No.** 50-00-0

Mobility

: No data available

Component: methanol **CAS-No.** 67-56-1

Mobility

: The product is mobile in water environment.

12.5. Results of PBT and vPvB assessment

Data for the product

Results of PBT and vPvB assessment

Result : 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.

Result : 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.

Component: formaldehyde **CAS-No.** 50-00-0

Results of PBT and vPvB assessment

Result : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Component: methanol **CAS-No.** 67-56-1

Results of PBT and vPvB assessment

Result : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6. Endocrine disrupting properties

Data for the product

Endocrine disrupting potential : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article

DES-F (BE-REG-00659)

57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Component:	formaldehyde	CAS-No. 50-00-0
-------------------	---------------------	------------------------

Endocrine disrupting potential	:	No information available about endocrine disruption properties for environment.
--------------------------------	---	---

Component:	methanol	CAS-No. 67-56-1
-------------------	-----------------	------------------------

Endocrine disrupting potential	:	No information available about endocrine disruption properties for environment.
--------------------------------	---	---

12.7. Other adverse effects

Data for the product

Additional ecological information

Result	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. Harmful effects to aquatic organisms due to pH-shift.
--------	---	--

Component:	formaldehyde	CAS-No. 50-00-0
-------------------	---------------------	------------------------

Additional ecological information

Result	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.
--------	---	---

Component:	methanol	CAS-No. 67-56-1
-------------------	-----------------	------------------------

Additional ecological information

Result	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. Danger to drinking water if even extremely small quantities leak into soil.
--------	---	--

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product	:	Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services.
---------	---	---

Contaminated packaging	:	Empty remaining contents. Packagings that cannot be cleaned are to be disposed of in the same manner as the product. Dispose of in accordance with local regulations.
------------------------	---	---

European Waste Catalogue Number	:	No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.
---------------------------------	---	--

DES-F (BE-REG-00659)

SECTION 14: Transport information

14.1. UN number

|| 2209

14.2. UN proper shipping name

|| ADR : FORMALDEHYDE SOLUTION
|| RID : FORMALDEHYDE SOLUTION
|| IMDG : FORMALDEHYDE SOLUTION

14.3. Transport hazard class(es)

|| ADR-Class : 8
(Labels; Classification Code; Hazard Identification Number; Tunnel restriction code)
8; C9; 80; (E)
|| RID-Class : 8
(Labels; Classification Code; Hazard Identification Number)
8; C9; 80
|| IMDG-Class : 8
(Labels; EmS)
8; F-A, S-B

14.4. Packaging group

|| ADR : III
|| RID : III
|| IMDG : III

14.5. Environmental hazards

|| Environmentally hazardous according to ADR : no
|| Environmentally hazardous according to RID : no
|| Marine Pollutant according to IMDG-Code : no

14.6. Special precautions for user

Not applicable.

14.7. Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

DES-F (BE-REG-00659)

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

Data for the product

EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I : Qualifying quantity for the application of Lower-tier requirements: 50 tonnes; Part 1: Categories of dangerous substances; ACUTE TOXIC (Category 2, all exposure routes; Category 3, inhalation)

Qualifying quantity for the application of Upper-tier requirements: 200 tonnes; Part 1: Categories of dangerous substances; ACUTE TOXIC (Category 2, all exposure routes; Category 3, inhalation)

Netherlands : ABM: B (2)

Component:	formaldehyde	CAS-No. 50-00-0
------------	--------------	-----------------

EU. Chemicals Subject to PIC Procedure: Regulation 649/2012/EU on export and import of dangerous chemicals, as amended : ; The substance/mixture does not fall under this legislation.

EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC) : Point Nos.: , 3; Listed

EU. REACH, Annex XVII, Appendix 2, Entry 28 - Carcinogens: Category 1B (CLP Table 3 of Annex VI). (Reg. 1907/2006/EC) , 28; Carcinogenicity; Category 1B

EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC) Point Nos.: 0,1, %, 28; Restricted to professional users.; Listed

Point Nos.: , 72; Listed
Point Nos.: , 75; Listed

EU. Regulation No 1451/2007 [Biocides], Annex I, OJ (L 325) : EC Number: , 200-001-8; Listed

DES-F (BE-REG-00659)

EU. Regulation No. 1223/2009 on cosmetic products, Annex III: List of Restricted Substances in Cosmetic Products : Maximum concentration in ready for use preparation: 5 %; Nail hardening products; See the text of the regulation for applicable exceptions or provisions.

EU. Regulation No. 1223/2009 on cosmetic products, Annex V: List of Preservatives Allowed in Cosmetic Products : Maximum concentration in ready for use preparation: 0,1 % 5; Oral products; See the text of the regulation for applicable exceptions or provisions.

Maximum concentration in ready for use preparation: 0,2 % 5; Products other than oral products; See the text of the regulation for applicable exceptions or provisions.

EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I : Qualifying quantity for the application of Upper-tier requirements: 50 tonnes; Part 2: Named dangerous substances; List ID 14: Formaldehyde (concentration ≥ 90%), see note 7

Qualifying quantity for the application of Lower-tier requirements: 5 tonnes; Part 2: Named dangerous substances; List ID 14: Formaldehyde (concentration ≥ 90%), see note 7

EU. Substances, Mixtures, Related Processes: Annex I & Art. 2, Dir 2004/37/EC (CMRD), as amended : Hazard Designation: ; Carcinogen/Mutagen

Belgium. OELs. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1, as amended : Hazard Designation: ; Irritant

||

Hazard Designation: ; Carcinogen/Mutagen

Netherlands. Carcinogenic substances and processes, as amended : Hazard Designation: ; Carcinogenic

Component: methanol CAS-No. 67-56-1

EU. Chemicals Subject : ; The substance/mixture does not fall under this legislation.

DES-F (BE-REG-00659)

to PIC Procedure:
Regulation 649/2012/EU
on export and import of
dangerous chemicals, as
amended

EU. REACH, Annex XVII, : Point Nos.: , 3; Listed
Marketing and Use
Restrictions (Regulation
1907/2006/EC)

Point Nos.: , 40; Listed
Point Nos.: , 69; Listed

EU. Regulation No. : Maximum concentration in ready for use preparation: 5 %;
1223/2009 on cosmetic Denaturant for ethanol and isopropyl alcohol; See the text of
products, Annex III: List the regulation for applicable exceptions or provisions.
of Restricted Substances
in Cosmetic Products

EU. Directive : Qualifying quantity for the application of Lower-tier
2012/18/EU (SEVESO requirements: 500 tonnes; Part 2: Named dangerous
III) on major accident substances; List ID 22: Methanol
hazards involving
dangerous substances,
Annex I

Qualifying quantity for the application of Upper-tier
requirements: 5.000 tonnes; Part 2: Named dangerous
substances; List ID 22: Methanol

15.2. Chemical safety assessment

Chemical safety assessment has not been carried out.

SECTION 16: Other information

II

Full text of H-Statements referred to under sections 2 and 3.

H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H331	Toxic if inhaled.

DES-F (BE-REG-00659)

H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H370	Causes damage to organs.
H371	May cause damage to organs.

Full text of the Notes referred to under section 3.

Note B	Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: "nitric acid ...%". In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.
Note D	Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Part 3. However, such substances are sometimes placed on the market in a non-stabilised form. In this case, the supplier must state on the label the name of the substance followed by the words "non-stabilised".

Abbreviations and Acronyms

AU AIICL	Australia. Industrial Chemicals Act (AIIC) List
BCF	bioconcentration factor
BOD	biochemical oxygen demand
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	carcinogenic, mutagenic or toxic to reproduction
COD	chemical oxygen demand
DNEL	derived no-effect level
DSL	Canada. Environmental Protection Act, Domestic Substances List
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ENCS (JP)	Japan. Kashin-Hou Law List
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
IECSC	China. Inventory of Existing Chemical Substances
INSQ	Mexico. National Inventory of Chemical Substances
ISHL (JP)	Japan. Inventory of Industrial Safety & Health
KECI (KR)	Korea. Existing Chemicals Inventory
LC50	median lethal concentration
LOAEC	lowest observed adverse effect concentration
LOAEL	lowest observed adverse effect level
LOEL	lowest observed effect level

DES-F (BE-REG-00659)

NDSL	Canada. Environmental Protection Act. Non-Domestic Substances List
NLP	no-longer polymer
NOAEC	no observed adverse effect concentration
NOAEL	no observed adverse effect level
NOEC	no observed effect concentration
NOEL	no observed effect level
NZIOC	New Zealand. Inventory of Chemicals
OECD	Organisation for Economic Cooperation and Development
OEL	occupational exposure limit
ONT INV	Canada. Ontario Inventory List
PBT	persistent, bioaccumulative and toxic
PHARM (JP)	Japan. Pharmacopoeia Listing
PICCS (PH)	Philippines. Inventory of Chemicals and Chemical Substances
PNEC	predicted no-effect concentration
REACH Auth. No.:	REACH Authorisation Number
REACH AuthAppC. No.	REACH Authorisation Application Consultation Number
UK REACH Auth. No.:	UK REACH Authorisation Number
UK REACH AuthAppC. No.	UK REACH Authorisation Application Consultation Number
UK REACH-Reg.No	UK REACH Registration Number
STOT	specific target organ toxicity
SVHC	substance of very high concern
TCSI	Taiwan. Existing Chemicals Inventory
TH INV	Thailand. Existing Chemicals Inventory from FDA
TSCA	US. Toxic Substances Control Act

Further information

Key literature references and sources for data	:	Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet.
Methods used for product classification	:	The classification for human health, physical and chemical hazards and environmental hazards were derived from a combination of calculation methods and if available test data.
Hints for trainings	:	The workers have to be trained regularly on the safe handling of the products based on the information provided in the Safety Data Sheet and the local conditions of the workplace. National regulations for the training of workers in the handling of hazardous materials must be adhered to.
Other information	:	Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use. The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with

DES-F (BE-REG-00659)

regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship.

The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

:

The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship.

The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

|| Indicates updated section.

DISTRIBUTOR COMPANY INFORMATION			
name	BRENNTAG N.V.	BRENNTAG Nederland B.V.	BRENNTAG SOUTH AFRICA (PTY) LTD
address	Nijverheidslaan 38 8540 Deerlijk	Donker Duyvisweg 44 3316 BM Dordrecht	11 Mansell Road Killarney Gardens, 7441
country	Belgium	The Netherlands	South Africa
phone number	+32 (0)56 77 69 44	+31 (0)78 65 44 944	+27 (0)21 0201800
website	www.brenntag.be	www.brenntag.nl	www.brenntag.co.za
e-mail	info@brenntag.be	info@brenntag.nl	info@brenntag.co.za
activities	Distribution and export of chemicals and ingredients		
VAT number	BE0405317567	NL001375945B01	4740102209
emergency number(24/365)	+32 (0)56 77 69 44	+31 (0)78 6544 944	+27 (0)21 0201800
management systems: certifications	ISO 9001, ISO 14001, ISO 22000, FSSC 22000, GMP+ Feed, ESAD	ISO 9001, ISO 14001, ISO 22000, FSSC 22000, OHSAS 18001, GMP+ Feed, ESAD, AEO	ISO 9001, FSSC 22000