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

1.1. Product identifier

Wash Buffer CF2

Further trade names

Article No. (user):
OE00540320

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

Use of the substance/mixture

specific analysis.
Scientific research and development

1.3. Details of the supplier of the safety data sheet

Company name: MolGen B.V.
Street: Kazemat 23
Place: NL-3905NR Veenendaal
Telephone: +31 (0) 85 - 200 7431 Telefax: +31 (0) 85 - 200 6901
e-mail: info@molgen.com
Internet: http://www.molgen.com

1.4. Emergency telephone number:

+31 (0) 85 - 200 7431

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Flam. Liq. 2; H225
Eye Irrit. 2; H319

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Signal word: Danger

Pictograms:

Hazard statements

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of waste according to applicable legislation.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
64-17-5	ethanol; ethyl alcohol			70 - < 75 %
	200-578-6	603-002-00-5	01-2119457610-43	
	Flam. Liq. 2, Eye Irrit. 2; H225 H319			

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

When in doubt or if symptoms are observed, get medical advice. If unconscious place in recovery position and seek medical advice. Do not leave affected person unattended.

After inhalation

Remove casualty to fresh air and keep warm and at rest. Get medical advice/attention. If breathing is irregular or stopped, administer artificial respiration.

After contact with skin

Wash with plenty of water/soap. Immediately remove any contaminated clothing, shoes or stockings. In case of skin reactions, consult a physician.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Observe risk of aspiration if vomiting occurs. Do NOT induce vomiting. If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Never give anything by mouth to an unconscious person or a person with cramps.

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

Irritant, Respiratory complaints, Unconsciousness, Narcotic effects, Headache.
May cause drowsiness or dizziness. Repeated exposure may cause skin dryness or cracking.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Water spray jet, Carbon dioxide (CO2), Foam, Extinguishing powder, Nitrogen
Co-ordinate fire-fighting measures to the fire surroundings.

5.2. Special hazards arising from the substance or mixture

Highly flammable. Vapours are heavier than air, spread along floors and form explosive mixtures with air.
Beware of reignition. In case of fire may be liberated: Gases/vapours, toxic

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. Full protection suit

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Remove all sources of ignition. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Evacuate area.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Avoid: Vapour, aerosol or mist formation. Read label before use.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Beware of reignition.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed and in a well-ventilated place. Store in a cool dry place. Keep locked up. Store in a place accessible by authorized persons only. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints on joint storage

Do not store together with: Chlorates, Hydrogen peroxide, Nitrogen oxides (NOx), Alkali metals, Alkaline earth metal, Aluminium, plastic and rubber, Oil, Oxidizing agent. Pyrophoric or self-heating substances, Oxidising agent, Nitric acid, aldehydes, Amines, sulphuric acid, Iron.

Further information on storage conditions

Protect against direct sunlight.

7.3. Specific end use(s)

specific analysis.
Scientific research and development

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
64-17-5	Ethanol	1000	1920		TWA (8 h)	WEL

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
64-17-5	ethanol; ethyl alcohol			
Worker DNEL, acute		inhalation	systemic	1900 mg/m³
Worker DNEL, long-term		dermal	systemic	343 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	950 mg/m³

PNEC values

CAS No	Substance	
Environmental compartment		Value
64-17-5	ethanol; ethyl alcohol	
Freshwater		960 mg/l
Marine water		790 mg/l
Freshwater sediment		3600 mg/l
Micro-organisms in sewage treatment plants (STP)		580000 mg/l
Soil		630 mg/l
Air		2750 mg/l

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations. Technical measures and the application of suitable work processes have priority over personal protection equipment.

Protective and hygiene measures

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Avoid: Vapour, aerosol or mist formation.

Eye/face protection

Wear eye/face protection.

Hand protection

Wear protective gloves. (EN ISO 374)

Suitable material:

By long-term hand contact:
NBR (Nitrile rubber)
Thickness of the glove material: 0,4 mm
Breakthrough time (maximum wearing time): > 480 min

By short-term hand contact:

CR (polychloroprene, chloroprene rubber)
Thickness of the glove material: 0,65 mm
Breakthrough time (maximum wearing time): > 120 min

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Flame-retardant protective clothing. Wear anti-static footwear and clothing

Respiratory protection

In case of inadequate ventilation wear respiratory protection.
Respiratory protection necessary at: Vapour, aerosol or mist formation
Filtering device (full mask or mouthpiece) with filter: A (DIN 3181)

Environmental exposure controls

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	transparent, colourless
Odour:	like: Alcohol
pH-Value:	not determined
Changes in the physical state	
Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	(Ethanol) 78 °C
Flash point:	(*) 21 °C
Flammability	
Solid:	not applicable
Gas:	not applicable
Explosive properties	
Vapours can form explosive mixtures with air.	
Lower explosion limits:	(Ethanol) 3,5 vol. %
Upper explosion limits:	(Ethanol) 15 vol. %
Auto-ignition temperature:	(Ethanol) 425 °C
Self-ignition temperature	
Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	not determined
Oxidizing properties	
Not oxidising.	
Vapour pressure:	not determined
Density:	0,88 g/cm³
Water solubility:	miscible
Solubility in other solvents	
not determined	

Partition coefficient n-octanol/water:	not determined
Viscosity / dynamic:	not determined
Viscosity / kinematic:	not determined
Relative vapour density:	not determined
Evaporation rate:	not determined

9.2. Other information

(*) Flash point: 70 Wt % Ethanol in aqueous solution; literature value

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Vapours can form explosive mixtures with air.
Reaction with: Alkali metals, Alkaline earth metal, Aluminium
(Ignition hazard. Formation of: Gases/vapours, flammable)
Exothermic reaction with: Oxidising agent, Nitric acid, aldehydes, Amines, sulphuric acid, Iron.
Explosion hazard with: Chlorates, Hydrogen peroxide, Nitrogen oxides (NOx)

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Protect against direct sunlight.

10.5. Incompatible materials

Chlorates, Hydrogen peroxide, Nitrogen oxides (NOx) , Alkali metals, Alkaline earth metal, Aluminium, plastic and rubber, Oil, Oxidizing agent. Pyrophoric or self-heating substances, Oxidising agent, Nitric acid, aldehydes, Amines, sulphuric acid, Iron.

10.6. Hazardous decomposition products

In case of fire may be liberated: Gases/vapours, toxic

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

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

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
64-17-5	ethanol; ethyl alcohol					
	oral	LD50 mg/kg	7060	Rat	Manufacturer	
	inhalation (4 h) vapour	LC50	95,6 mg/l	Rat	Manufacturer	

Irritation and corrosivity

Causes serious eye irritation.
Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Practical experience

Other observations

Irritant, Respiratory complaints, Unconsciousness, Narcotic effects, Headache.
May cause drowsiness or dizziness. Repeated exposure may cause skin dryness or cracking.

SECTION 12: Ecological information

12.1. Toxicity

The product is not: Ecotoxic.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] | [d]	Species	Source	Method
64-17-5	ethanol; ethyl alcohol					
	Acute fish toxicity	LC50 8140 mg/l	96 h	Leuciscus idus (golden orfe)	Manufacturer	
	Acute crustacea toxicity	EC50 9000 - 14000 mg/l	48 h	Daphnia magna (Big water flea)	Manufacturer	

12.2. Persistence and degradability

The product has not been tested.

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
64-17-5	ethanol; ethyl alcohol	-0,31

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The product has not been tested.

12.6. Other adverse effects

No information available.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

Contaminated packaging

Hazardous waste according to Directive 2008/98/EC (waste framework directive). Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: UN 1170

14.2. UN proper shipping name: ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

14.3. Transport hazard class(es): 3

14.4. Packing group: II

Hazard label: 3

Classification code: F1
Special Provisions: 144 601
Limited quantity: 1 L
Excepted quantity: E2
Transport category: 2
Hazard No: 33
Tunnel restriction code: D/E

Inland waterways transport (ADN)

14.1. UN number: UN 1170

14.2. UN proper shipping name: ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

14.3. Transport hazard class(es): 3

14.4. Packing group: II

Hazard label: 3

Classification code: F1
Special Provisions: 144 601
Limited quantity: 1 L
Excepted quantity: E2

Marine transport (IMDG)

14.1. UN number: UN 1170

14.2. UN proper shipping name: ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

14.3. Transport hazard class(es): 3

14.4. Packing group: II

Hazard label: 3

Special Provisions: 144
Limited quantity: 1 L
Excepted quantity: E2
EmS: F-E, S-D

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 1170

14.2. UN proper shipping name: ETHANOL SOLUTION

14.3. Transport hazard class(es): 3

14.4. Packing group: II

Hazard label: 3

Special Provisions:	A3 A58 A180	
Limited quantity Passenger:	1 L	
Passenger LQ:	Y341	
Excepted quantity:	E2	
IATA-packing instructions - Passenger:		353
IATA-max. quantity - Passenger:		5 L
IATA-packing instructions - Cargo:		364
IATA-max. quantity - Cargo:		60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Warning: flammable liquids.

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

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40

2010/75/EU (VOC):	< 71 %
Information according to 2012/18/EU (SEVESO III):	P5c FLAMMABLE LIQUIDS

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
Water hazard class (D):	1 - slightly hazardous to water

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
ethanol; ethyl alcohol

SECTION 16: Other information

Abbreviations and acronyms

CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LL50: Lethal loading, 50%
EL50: Effect loading, 50%

EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
IMDG: International Maritime Code for Dangerous Goods
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
VOC: Volatile Organic Compounds
SVHC: Substance of Very High Concern
For abbreviations and acronyms, see table at http://abbrev.esdscom.eu

Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Flam. Liq. 2; H225	On basis of test data
Eye Irrit. 2; H319	Calculation method

Relevant H and EUH statements (number and full text)

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)