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

* 1.1 Product identifier

Trade name/designation Mixture 10 % Ethylene oxide / 90 % Carbon dioxide

Art-Nr(n). 5120

Unique Formula Identifier UFI: 9GYQ-YF1T-D101-T12C

Hazard components
ethylene oxide

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

* **Use of the substance/mixture**
Basic substance.
laboratory reagent.
Biocidal product.
Fumigant.

1.3 Details of the supplier of the safety data sheet

Supplier
GHC Gerling, Holz & Co. Handels GmbH
Ruhrstraße 113
D-22761 Hamburg
Telephone +49 40 853 123 0
E-mail hamburg@ghc.de
Website www.ghc.com

Department responsible for information:
GHC Gerling, Holz & Co. Handels GmbH
Telephone +49 40 853 123 0

E-mail (competent person):
msds@ghc.de

* 1.4 Emergency telephone number

EN: Poison Information Center Mainz +49 6131 19240

* SECTION 2: Hazards identification

* 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]	Classification procedure
Chem. Unst. Gas A, H220	
Chem. Unst. Gas A, H230	
Press. Gas (Liq.), H280	
Acute Tox. 4, H302	
Acute Tox. 4, H332	
Skin Corr. 1, H314	
Eye Dam. 1, H318	
Muta. 1B, H340	
Carc. 1B, H350i	
Repr. 1B, H360Fd	
STOT RE 1, H372	

Hazard statements for physical hazards
H220 Extremely flammable gas.
H230 May react explosively even in the absence of air.
H280 Contains gas under pressure; may explode if heated.

Hazard statements for health hazards
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H340 May cause genetic defects.
H350i May cause cancer by inhalation.
H360Fd May damage fertility. Suspected of damaging the unborn child.
H372 Causes damage to the nervous system and to blood forming organs through prolonged or repeated exposure by inhalation.

* **2.2 Label elements**

* **Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard components
ethylene oxide

Hazard pictograms


GHS02


GHS05


GHS07


GHS08

Signal word
Danger

Hazard statements
H220 Extremely flammable gas.
H230 May react explosively even in the absence of air.
H280 Contains gas under pressure; may explode if heated.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H332 Harmful if inhaled.
H340 May cause genetic defects.
H350i May cause cancer by inhalation.
H360Fd May damage fertility. Suspected of damaging the unborn child.
H372 Causes damage to the nervous system and to blood forming organs through prolonged or repeated exposure by inhalation.

* **Precautionary statements**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not inhale gas/vapours.
P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

* **Supplemental hazard information**
EIGA0803 Restricted to professional users.
Please return container with residual pressure.
Withdrawal out of the liquid phase only.

* **2.3 Other hazards**

* **Adverse human health effects and symptoms**
The product is skin resorptive.
May form explosive mixtures with air.
Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.
Contact with liquid may cause cold burns/frostbite.
Receptacle under pressure.

* **Other adverse effects**
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.

Results of PBT and vPvB assessment
The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

* SECTION 3: Composition / information on ingredients

3.1 Substances

not applicable

* 3.2 Mixtures

Hazardous ingredients

CAS No.	EC No.	Substance name	Concentration	Classification according to Regulation (EC) No 1272/2008 [CLP]	SCL/ M/ ATE
124-38-9	204-696-9	Carbon dioxide	90 weight-%	Press. Gas (Liq.); H280	
75-21-8	200-849-9	ethylene oxide	10 weight-%	Chem. Unst. Gas A; H220 H230 Press. Gas (Liq.); H280 Acute Tox. 3 ; H301 Acute Tox. 3; H331 Skin Corr. 1; H314 Eye Dam. 1; H318 Muta. 1B; H340 Carc. 1B; H350i(inhalation) Repr. 1B; H360Fd Repr. 1B; H360FD STOT SE 3; H335 STOT SE 3; H336 STOT RE 1; H372	Acute Tox. 3;H301: ATE = 100 mg/kg Acute Tox. 3;H331: ATE = 700 ppm

REACH No.	Substance name
-	Carbon dioxide
01-2119432402-53	ethylene oxide

Remark
The text of the H-and EUH-phrases is shown in section 16.
Carbon dioxide does not require registration according to Article 2 (7) in conjunction with Annex IV / V of the Regulation (EC) No 1907/2006 [REACH].

* SECTION 4: First aid measures

* 4.1 Description of first aid measures

General information
Remove contaminated, saturated clothing immediately.
First aider: Pay attention to self-protection!
Call a physician immediately.
Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours.

Following inhalation
Remove casualty to fresh air and keep warm and at rest.
In the event of pulmonary irritation treat initially with corticoid spray, e.g. Ventolair- or Pulmicort- metered-dose aerosol (Ventolair and Pulmicort are registrated trademarks).
In case of respiratory standstill give artificial respiration by respiratory bag (Ambu bag) or respirator. Obtain medical assistance.

* **Following skin contact**
In case of skin contact rinse with warm water.
In case of frostbite rinse with lukewarm (not hot) water for at least 15 minutes. Do not remove clothing frozen to the skin.
Thaw with lukewarm water. Apply a sterile dressing. Obtain medical assistance.
In case of frostbite, wash with plenty of water; do not remove clothing.

After eye contact
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical assistance.

* **Following ingestion**
Do NOT induce vomiting.
Rinse mouth immediately and drink plenty of water.

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

* **Symptoms**
Dyspnoea
Depression of central nervous system
Vomiting
Redness / blebs on the skin.

Effects
Risk of bullous dermatitis on exposure to vapors.
Pulmonary oedema

4.3 Indication of any immediate medical attention and special treatment needed

Notes for the doctor
Treat symptomatically.
Pulmonary oedema prophylaxis.

* SECTION 5: Firefighting measures

* **5.1 Extinguishing media**

* **Suitable extinguishing media**
Extinguishing powder
alcohol resistant foam
Water spray jet

* **Unsuitable extinguishing media**
Full water jet
Carbon dioxide (CO_2)

* **5.2 Special hazards arising from the substance or mixture**

* **Hazardous combustion products**
In case of fire formation of dangerous gases possible.
Carbon monoxide
Carbon dioxide (CO_2)

* **5.3 Advice for firefighters**

* **Special protective equipment for firefighters**
Wear a self-contained breathing apparatus and chemical protective clothing.

* **Additional information**
If possible, shut off gas valves and move containers to a safe location.
Use water spray jet to protect personnel and to cool endangered containers.
Exposure to fire may cause rupture / explosion of the containers.
Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

* SECTION 6: Accidental release measures

* **6.1 Personal precautions, protective equipment and emergency procedures**

* **For non-emergency personnel**
Use personal protection equipment.
Leave the danger area.
Keep people away and stay on the upwind side.

For emergency responders
Personal protection by wearing close-fitting protective clothing and breathing apparatus.
Pay attention to extension of gas especially at ground (heavier than air) and in direction of the wind.
Eliminate all sources of ignition until all spilled liquid has evaporated (floor is free of frost).
Remove persons to safety.

* 6.2 Environmental precautions

If possible, stop flow of product.
Do not allow to enter into soil/subsoil.
Do not allow to enter into surface water or drains.

* 6.3 Methods and material for containment and cleaning up

* **For containment**
If necessary, secure leaky pressure receptacles using a salvage container.
Prevent the liquid from spreading over a wide area (set up barriers, cover sewage systems).
Limit expansion of the gas (water spray jet).

* **For cleaning up**
Leave to vapourize.
Provide adequate ventilation.

6.4 Reference to other sections

Disposal: see section 13
Personal protection equipment: see section 8

* SECTION 7: Handling and storage

* 7.1 Precautions for safe handling

* **Protective measures**
Use only in well-ventilated areas.
Transfer and handle product only in closed systems.
Usual measures for fire prevention.
Containers' temperature should not be increased above 50 °C.
The working pressure in the receptacle must not exceed the saturation vapour pressure of the pure product resulting at a temperature of 50 °C.
Prevent cylinders from falling over.
Take precautionary measures against static discharges. Ground barrels and installations. Use only antistatically equipped (spark-free) tools.
Use explosion-proof machinery, apparatus, ventilation facilities, tools etc.
Ensure valve protection device is correctly fitted.
Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
Open valve slowly to avoid pressure shock.
Do not allow backflow into the container.
Entering of water into the container must be prevented.
No water to valves, flanges and other fittings.
Purging of pipes and valves with inert gases - to avoid: water, solvents.

Advices on general occupational hygiene
When using do not eat, drink, smoke, sniff.
Wash hands before breaks and after work.
Remove contaminated clothing and protective equipment before entering eating areas.

* 7.2 Conditions for safe storage, including any incompatibilities

* **Requirements for storage rooms and vessels**
All regulations and local requirements for the storage of containers have to be respected.
Keep container tightly closed and in a well-ventilated place.
Containers' temperature should not be increased above 50 °C.
Prevent cylinders from falling over.
Only use containers specifically approved for the substance/product.
Information on suitable materials for receptacles and valves see ISO 11114.

Storage class
2A Gases (except aerosol dispensers and lighters)

* **Materials to avoid**
Do not store together with explosives.
Do not store together with flammable liquids.
Do not store together with flammable solids.
Do not store together with pyrophoric and self-heating substances.
Do not store together with oxidizing liquids or oxidizing solids.
Do not store together with toxic liquids or toxic solids.
Do not store together with infectious substances.
Do not store together with radioactive material.
Do not store together with food or feed.

* **Further information on storage conditions**
Recommended storage temperature: =< 10 °C.

* **7.3 Specific end use(s)**

* **Recommendation**
An exposure scenario is not required.
Use as a biocidal product: Used for disinfection of surfaces, materials, equipment and furniture which are not used for direct contact with food or feeding stuffs. Read attached instructions before use.

* SECTION 8: Exposure controls/personal protection

* **8.1 Control parameters**

* **Occupational exposure limit values**

CAS No.	EC No.	Substance name	occupational exposure limit value
124-38-9	204-696-9	Carbon dioxide	5000 [ml/m³(ppm)] 9000 [mg/m³] Short-term(ml/m³) 15000 (1) Short-term(mg/m³) 27000 (1) (1) 15 minutes reference period (IE)
75-21-8	200-849-9	Ethylene oxide	5 [ml/m³(ppm)] 10 [mg/m³] (IE)

* **DNEL worker**

CAS No.	Substance name	DNEL value	DNEL type	Remark
75-21-8	ethylene oxide	1.8 mg/m³	long-term inhalative (local)	, Carcinogenicity.
75-21-8	ethylene oxide	1.8 mg/m³	long-term inhalative (systemic)	, Carcinogenicity.
75-21-8	ethylene oxide	10 mg/m³	acute inhalative (systemic)	Assessment factor 10, Neurotoxizität.

* **PNEC**

CAS No.	Substance name	PNEC Value	PNEC type	Remark
75-21-8	ethylene oxide	0.008 mg/L	aquatic, marine water	Assessment factor 10000, assessment factor.
75-21-8	ethylene oxide	0.017 mg/kg	soil	
75-21-8	ethylene oxide	0.033 mg/kg	sediment, marine water	
75-21-8	ethylene oxide	0.084 mg/L	aquatic, freshwater	Assessment factor 1000, assessment factor.
75-21-8	ethylene oxide	0.329 mg/kg	sediment, freshwater	
75-21-8	ethylene oxide	0.84 mg/kg	aquatic, intermittent release	Assessment factor 100, assessment factor.
75-21-8	ethylene oxide	13 mg/L	sewage treatment plant (STP)	Assessment factor 10, assessment factor.

* **8.2 Exposure controls**

* **Appropriate engineering controls**

* **Technical measures to prevent exposure**
Transfer and handle only in enclosed systems.

* **Personal protection equipment**

Eye/face protection
Protective goggles according to EN 166, in case of increased risk add protective face shield.

Hand protection
Safety gloves according to EN 374:
Glove material specification [make/type, thickness, permeation time/life]: IIR, >= 0,7 mm, > 30 min

Body protection:
Safety shoes with steel toecap.
Body covering work clothing or chemical resistant suit at increased risk.

Respiratory protection
Keep self contained breathing apparatus readily available for emergency use.
Respiratory protection necessary at:
high concentrations
Suitable respiratory protection apparatus:
Respiratory protection complying with EN 137.
Short term: filter apparatus, filter AX
In case of rescue and maintenance activities in storage containers use environment-independent breathing apparatus because of risk of suffocation due to displacement of oxygen.

* **Thermal hazards**
Use cold-resistant protective equipment.

* **Environmental exposure controls**

* **Remark**
Prevent release to the environment.

* SECTION 9: Physical and chemical properties

* 9.1 Information on basic physical and chemical properties

Physical state
Gaseous / liquefied under pressure.

Colour
colourless

Odour
like:
Ether

Safety relevant basis data

	Value	Method	Source, Remark
Odour threshold:			not determined
Melting point/freezing point			not applicable
Boiling point or initial boiling point and boiling range	10.4 °C pressure 1013 hPa		Information concerns ethylene oxide.
flammability			inflammable
Lower and upper explosion limit	Upper explosion limit 100 Vol-%		Information concerns ethylene oxide.
Lower and upper explosion limit	Lower explosion limit 2.6 Vol-%		Information concerns ethylene oxide.
Flash point			not applicable
Auto-ignition temperature	435 °C		Information concerns ethylene oxide.

	Value	Method	Source, Remark
Decomposition temperature	approx. 570 °C		Information concerns ethylene oxide.
pH			not applicable
Viscosity			not applicable
Solubility(ies)	Water solubility		not determined
Partition coefficient n-octanol/water (log value)			not applicable
Vapour pressure	51740 hPa (20°C)		Calculated
Density and/or relative density			not applicable
Relative vapour density	1.52 (20°C) pressure 1013 hPa		air = 1 Calculated
particle characteristics			not applicable

*** 9.2 Other information**

*** Other information**
Vapours are heavier than air.

* SECTION 10: Stability and reactivity

10.1 Reactivity

See section "Possibility of hazardous reactions".

* 10.2 Chemical stability

Hydrolyses

* 10.3 Possibility of hazardous reactions

Risk of polymerisation.
Reactions with numerous chemical compounds.
Reactions with light metals.
Reactions with alkali metals.
Reactions with amines.

* 10.4 Conditions to avoid

Water / moisture.
Light
Heat sources / heat - risk of bursting.
Ignition sources, open flames, glowing metal surfaces, etc.

* 10.5 Incompatible materials

Air
Oxygen
Oxidising agent
Alcohols
Chlorine

* 10.6 Hazardous decomposition products

When handled and stored appropriately, no dangerous decomposition products are known.

* SECTION 11: Toxicological information

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

*** Acute toxicity**

* **Animal data**

	Effective dose	Method,Evaluation	Source, Remark
Acute oral toxicity	LD50: 330 mg/kg Species Rat	OECD 401	Information concerns ethylene oxide.
Acute dermal toxicity			Study scientifically not necessary.
Acute inhalation toxicity	LC50: 660 ppm Species Mouse	OECD 403	Information concerns ethylene oxide.

* **Assessment/classification**
Harmful by inhalation and if swallowed.

* **Skin corrosion/irritation**

Animal data

Result / Evaluation	Method	Source, Remark
Corrosive. Species Rabbit		Information concerns ethylene oxide.

* **Assessment/classification**
Causes severe burns.

* **Serious eye damage/irritation**

Animal data

Result / Evaluation	Method	Source, Remark
Corrosive Species Rabbit		Information concerns ethylene oxide.

* **Assessment/classification**
Causes serious eye damage.

* **Sensitisation to the respiratory tract**

* **Other information**
No data available

* **Skin sensitisation**

Animal data

Result / Evaluation	Dose / Concentration	Method	Source, Remark
not sensitising.	Species Guinea pig		Information concerns ethylene oxide.

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

* **Repeated dose toxicity (subacute, subchronic, chronic)**

	Effective dose	Method	Specific effects:	Organs affected:	Source, Remark
Subchronic inhalation toxicity	NOAEC < 50 ppm Species Rat	OECD 413			Information concerns ethylene oxide.
Chronic inhalation toxicity	NOAEC 10 ppm Species Rat	OECD 453			Information concerns ethylene oxide.

* **Germ cell mutagenicity**

	Value	Method	Result / Evaluation	Remark
In vitro mutagenicity/genotoxicity			positive	Information concerns ethylene oxide.
In vivo mutagenicity/genotoxicity			positive	Information concerns ethylene oxide.

* **Assessment/classification**
May cause genetic defects.

* **Carcinogenicity**

Animal data

	Value	Method	Result / Evaluation	Remark
Carcinogenicity	NOAEC < 10 ppm Species Rat Exposure duration 2 a	OECD 453		Information concerns ethylene oxide.

* **Assessment/classification**
May cause cancer by inhalation.

* **Reproductive toxicity**

Animal data

	Value	Method	Result / Evaluation	Remark
Reproductive toxicity	NOAEC 33 ppm	OECD 415		Information concerns ethylene oxide.

* **Assessment/classification**
May damage fertility. Suspected of damaging the unborn child.

* **STOT-single exposure**

* **STOT SE 1 and 2**

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

* **STOT-repeated exposure**

* **Animal data**

	Effective dose	Method	Specific effects:	Organs affected:	Source, Remark
Inhalative specific target organ toxicity (repeated exposure)	450 ppm Species Rat	OECD 413		haematopoietic system	Information concerns ethylene oxide.
Inhalative specific target organ toxicity (repeated exposure)	450 ppm Species Rat	OECD 413		central nervous system	Information concerns ethylene oxide.

* **Assessment/classification**
Causes damage to the nervous system and to blood forming organs through prolonged or repeated exposure by inhalation.

* **Aspiration hazard**

* **Assessment/classification**
Study technically not feasible.

11.2 Information on other hazards

* **Other information**

May be absorbed through the skin.
Risk of strong health injuries in case of long-term exposition.
The product has not been tested. The information is derived from the properties of the individual components.

* SECTION 12: Ecological information

* **12.1 Toxicity**

* **Aquatic toxicity**

	Effective dose	Method,Evaluation	Source, Remark
Acute (short-term) fish toxicity	LC50: 84 mg/L Species Pimephales promelas (fathead minnow) Test duration 96 h	EPA 660/3-75/009	Information concerns ethylene oxide.

	Effective dose	Method,Evaluation	Source, Remark
Chronic (long-term) fish toxicity	not determined		
Acute (short-term) toxicity to crustacea	LC50 212 mg/L Species Daphnia magna (Big water flea) Test duration 48 h	EPA 660/3-75/009	Information concerns ethylene oxide.
Chronic (long-term) toxicity to aquatic invertebrate	not determined		
Acute (short-term) toxicity to algae and cyanobacteria	EC50 240 mg/L Species Pseudokirchneriella subcapitata Test duration 96 h	EPA 660/3-75/009	Analogous to a similar product.
Chronic (long-term) toxicity to aquatic algae and cyanobacteria	not determined		
Toxicity to other aquatic plants/organisms	not determined		
Toxicity to microorganisms	EC10 130 mg/L Species activated sludge Test duration 3 h	OECD 209	Information concerns ethylene oxide.

* 12.2 Persistence and degradability

	Value	Method	Source, Remark
Biodegradation	Degradation rate > 95 % Test duration 28 d	OECD 301C/ ISO 9408/ EEC 92/69/V, C.4-F	CAS No.75-21-8 ethylene oxide

* **Assessment/classification**
Readily biodegradable (according to OECD criteria).

* 12.3 Bioaccumulative potential

* **Assessment/classification**
Based on the n-octanol/water partition coefficients of the individual components of the mixture, accumulation in organisms is not expected.

* 12.4 Mobility in soil

	Value	Distribution	Transport type	Method	Remark
Half-life time in soil	CAS No.75-21-8 ethylene oxide 0.51- 0.67			log Koc	Calculated

12.5 Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

* 12.6 Endocrine disrupting properties

	Effective dose	Method,Evaluation	Source, Remark
Endocrine disrupting properties			See section 2.3

12.7 Other adverse effects

* Additional ecotoxicological information

* **Additional information**
The product has not been tested. The data are derived from the individual components of the mixture.

* SECTION 13: Disposal considerations

* 13.1 Waste treatment methods

Waste codes/waste designations according to EWC/AVV

Waste code product	Waste name
160504 *	gases in pressure containers (including halons) containing hazardous substances

* **Appropriate disposal / Product**
Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.
Prevent release to the environment. No disposal via the sewage.

Appropriate disposal / Package
Transportable pressure equipment (empty, residual pressure): Return to supplier / manufacturer.

* SECTION 14: Transport information

	Land transport (ADR/RID)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1 UN number or ID number	UN 1041	UN 1041	UN 1041
14.2 UN proper shipping name	ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE	ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE	Ethylene oxide and carbon dioxide mixture
14.3 Transport hazard class(es)	2.1	2.1	2.1
14.4 Packing group	-	-	-
14.5 Environmental hazards	No	No	No

14.6 Special precautions for user

The protective measures listed in Sections 6, 7 and 8 of the Safety Data Sheet have to be considered.

14.7 Maritime transport in bulk according to IMO instruments

No carriage in bulk.

Land transport (ADR/RID)

UN number or ID number	UN 1041
UN proper shipping name	ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE
Transport hazard class(es)	2.1
Hazard label(s)	2.1
Classification code	2F
Packing group	-
Environmental hazards	No
Limited quantity (LQ)	0
Special provisions	662
Tunnel restriction code	B/D

* **Sea transport (IMDG)**

UN number or ID number	UN 1041
UN proper shipping name	ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE
Transport hazard class(es)	2.1
Packing group	-
Environmental hazards	No
Limited quantity (LQ)	0
Marine pollutant	No
EmS	F-D, S-U

* **Air transport (ICAO-TI / IATA-DGR)**

UN number or ID number	UN 1041
UN proper shipping name	Ethylene oxide and carbon dioxide mixture
Transport hazard class(es)	2.1
Packing group	-
Environmental hazards	No

* SECTION 15: Regulatory information

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

* **EU legislation**

* **Restrictions of occupation**
Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

* **Other regulations (EU)**

To follow:
Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII No 28 - 30.
Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII No 40.
Regulation (EU) No 528/2012 concerning the making available on the market and use of biocidal products.
Regulation (EU) No 649/2012 concerning the export and import of dangerous chemicals.
Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances.

* **Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive] VOC**
VOC-value 10 %

* 15.2 Chemical Safety Assessment

* **National regulations**

Chemical safety assessments for substances in this mixture were carried out.

* SECTION 16: Other information

Key literature references and sources for data
Information from our suppliers and data from the "GESTIS Substances Database" and the "Registered Substances" database of the European Chemicals Agency (ECHA) were used to create this safety data sheet.

* **Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]**
Classification of the mixture based on bridging principles (physical hazards) and specific and general concentration limits of the ingredients (health and environmental hazards).

* **Additional information**
The information contained herein is based on the state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.

Relevant H- and EUH-phrases (Number and full text)

H220 H230	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.
H301	Toxic if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H340	May cause genetic defects.
H350i	May cause cancer by inhalation.

H360FD	May damage fertility. May damage the unborn child.
H360Fd	May damage fertility. Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.

Indication of changes
* Data changed compared with the previous version