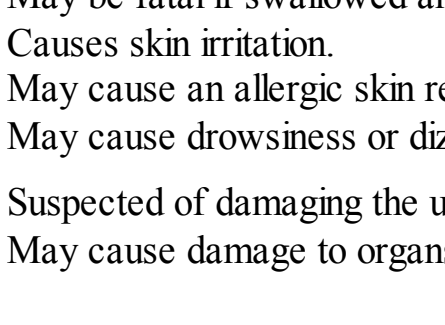



IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING			
1. Product identifiers			
Product name		Ethyl glyoxalate solution	
1.2 Relevant identified uses of the substance or mixture and uses advised against			
Identified uses		Laboratory chemicals, Manufacture of substances	
2. HAZARDS IDENTIFICATION			
2.1 Classification of the substance or mixture			
Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]			
Flammable liquids (Category 2)			
Skin irritation (Category 2)			
Skin sensitization (Category 1)			
Reproductive toxicity (Category 2)			
Specific target organ toxicity - single exposure (Category 3)			
Specific target organ toxicity - repeated exposure (Category 2)			
Aspiration hazard (Category 1)			
Classification according to EU Directives 67/548/EEC or 1999/45/EC			
Highly flammable. Harmful: may cause lung damage if swallowed. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of harm to the unborn child. May cause sensitization by skin contact. Irritating to skin. Vapours may cause drowsiness and dizziness.			
2.2 Label elements			
Labelling according Regulation (EC) No 1272/2008 [CLP]			
Pictogram			
Signal word		Danger	
Hazard statement(s)			
H225		Highly flammable liquid and vapour.	
H304		May be fatal if swallowed and enters airways.	
H315		Causes skin irritation.	
H317		May cause an allergic skin reaction.	
H336		May cause drowsiness or dizziness.	
H361d		Suspected of damaging the unborn child.	
H373		May cause damage to organs through prolonged or repeated exposure.	
Precautionary statement(s)			
P210		Keep away from heat/sparks/open flames/hot surfaces. - No smoking.	
P261		Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.	
P280		Wear protective gloves.	
P301 + P310		IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.	
P331		Do NOT induce vomiting.	
Supplemental Hazard Statements		none	
According to European Directive 67/548/EEC as amended.			
Hazard symbol(s)			
R-phrases(s)			
R11		Highly flammable.	
R38		Irritating to skin.	
R43		May cause sensitization by skin contact.	
R48/20		Harmful: danger of serious damage to health by prolonged exposure through inhalation.	
R63		Possible risk of harm to the unborn child.	
R65		Harmful: may cause lung damage if swallowed.	
R67		Vapours may cause drowsiness and dizziness.	
S-phrases(s)			
S16		Keep away from sources of ignition - No smoking.	
S36/37		Wear suitable protective clothing and gloves.	
S62		If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.	
2.3 Other hazards - none			
3. COMPOSITION/INFORMATION ON INGREDIENTS			
3.2 Mixtures			
Synonyms		Ethyl oxoacetate	
Formula		C4H6O3	
Component		Classification	Concentration
Ethyl glyoxylate			
CAS-No.		924-44-7	Flam. Liq. 2; Skin Irrit. 2; Skin
EC-No.		213-105-3	Sens. 1; H225, H315, H317
			Xi, R38 - R43
Toluene			
CAS-No.		108-88-3	Flam. Liq. 2; Repr. 2; Asp.
EC-No.		203-625-9	Tox. 1; STOT RE 2; Skin Irrit.
		-	2; STOT SE 3; H225, H315, H373, H304, H336, H361d
			F, Xn, Repr.Cat.3, R11 - R38 - R48/20 - R63 - R65 - R67
Glyoxylic acid			
CAS-No.		298-12-4	Skin Corr. 1B; Resp. Sens. 1;
EC-No.		206-058-5	H314, H334
			C, R34 - R43
Ethanol			
CAS-No.		64-17-5	Flam. Liq. 2; H225
EC-No.		200-578-6	F, R11
Index-No.		603-002-00-5	<= 2 %
For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16			
4. FIRST AID MEASURES			
4.1 Description of first aid measures			
General advice			
Consult a physician. Show this safety data sheet to the doctor in attendance.			
If inhaled			
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.			
In case of skin contact			
Wash off with soap and plenty of water. Consult a physician.			
In case of eye contact			
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.			
If swallowed			
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.			
4.2 Most important symptoms and effects, both acute and delayed			
Lung irritation, chest pain, pulmonary edema, Inhalation studies on toluene have demonstrated the development of inflammatory and ulcerous lesions of the penis, prepuce, and scrotum in animals.			
4.3 Indication of immediate medical attention and special treatment needed			
no data available			
5. FIRE-FIGHTING MEASURES			
5.1 Extinguishing media			
Suitable extinguishing media			
For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.			
5.2 Special hazards arising from the substance or mixture			
Carbon oxides			
5.3 Precautions for fire-fighters			
Wear self contained breathing apparatus for fire fighting if necessary.			
5.4 Further information			
Use water spray to cool unopened containers.			
6. ACCIDENTAL RELEASE MEASURES			
6.1 Personal precautions, protective equipment and emergency procedures			
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.			
6.2 Environmental precautions			
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.			
6.3 Methods and materials for containment and cleaning up			
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).			
6.4 Reference to other sections			
For disposal see section 13.			
7. HANDLING AND STORAGE			
7.1 Precautions for safe handling			
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.			
7.2 Conditions for safe storage, including any incompatibilities			
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.			
7.3 Specific end uses			
no data available			
8. EXPOSURE CONTROLS/PERSONAL PROTECTION			
8.1 Control parameters			
Components with workplace control parameters			
8.2 Exposure controls			
Appropriate engineering controls			
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.			
Personal protective equipment			
Eye/face protection			
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).			
Skin protection			
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.			
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.			
Body Protection			
Complete suit protecting against chemicals, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.			
Respiratory protection			
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).			
9. PHYSICAL AND CHEMICAL PROPERTIES			
9.1 Information on basic physical and chemical properties			
a) Appearance		Form: clear, liquid Colour: light yellow	
b) Odour		no data available	
c) Odour Threshold		no data available	
d) pH		no data available	
e) Melting/freezing point		no data available	
f) Initial boiling point and boiling range		no data available	
g) Flash point		7 °C	
h) Evaporation rate		no data available	
i) Flammability (solid, gas)		no data available	
j) Upper/lower flammability or explosive limits		no data available	
k) Vapour pressure		no data available	
l) Vapour density		no data available	
m) Relative density		1,03 g/mL at 20 °C	
n) Water solubility		no data available	
o) Partition coefficient: n-octanol/water		no data available	
p) Autoignition temperature		no data available	
q) Decomposition temperature		no data available	
r) Viscosity		no data available	
s) Explosive properties		no data available	
t) Oxidizing properties		no data available	
9.2 Other safety information			
no data available			
10. STABILITY AND REACTIVITY			
10.1 Reactivity			
no data available			
10.2 Chemical stability			
no data available			
10.3 Possibility of hazardous reactions			
no data available			
10.4 Conditions to avoid			
Heat, flames and sparks. Extremes of temperature and direct sunlight.			
10.5 Incompatible materials			
no data available			
10.6 Hazardous decomposition products			
Other decomposition products - no data available			
11. TOXICOLOGICAL INFORMATION			
11.1 Information on toxicological effects			
Acute toxicity			
no data available			
Skin corrosion/irritation			
no data available			
Serious eye damage/eye irritation			
no data available			
Respiratory or skin sensitization			
May cause allergic skin reaction.			
Germ cell mutagenicity			
no data available			
Carcinogenicity			
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.			
Reproductive toxicity			
no data available			
Specific target organ toxicity - single exposure			
no data available			
Specific target organ toxicity - repeated exposure			
no data available			
Aspiration hazard			
no data available			
Potential health effects			
Inhalation		Harmful if inhaled. Causes respiratory tract irritation. Vapours may cause drowsiness and dizziness.	
Ingestion		Harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage.	
Skin		Harmful if absorbed through skin. Causes skin irritation.	
Eyes		Causes serious eye irritation.	
Signs and Symptoms of Exposure			
Lung irritation, chest pain, pulmonary edema, Inhalation studies on toluene have demonstrated the development of inflammatory and ulcerous lesions of the penis, prepuce, and scrotum in animals.			
Additional Information			
RTECS: Not available			
12. ECOLOGICAL INFORMATION			
12.1 Toxicity			
no data available			
12.2 Persistence and degradability			
no data available			
12.3 Bioaccumulative potential			
no data available			
12.4 Mobility in soil			
no data available			
12.5 Results of PBT and vPvB assessment			
no data available			
12.6 Other adverse effects			
no data available			
Toxic to aquatic life.			
13. DISPOSAL CONSIDERATIONS			
13.1 Waste treatment methods			
Product			
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as			