

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Essigsäure 97,5 % ± 0,4 % (m/m)

Revision date: 17.03.2025

Product code: 34997

Page 1 of 12

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

##### 1.1. Product identifier

Essigsäure 97,5 % ± 0,4 % (m/m)

UFI: 2NW3-E3K1-F00F-XC62

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

###### Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

###### Uses advised against

Do not use for private purposes (household).

##### 1.3. Details of the supplier of the safety data sheet

Company name: AnalytiChem GmbH  
ACD  
Street: Stempelstraße 6  
Place: D-47167 Duisburg  
Telephone: 0203/5194-0  
Telefax: 0203/5194-290  
E-mail: info@analytichem.de  
Contact person: Abteilung Produktsicherheit  
Telephone: 0203/5194-107/117  
E-mail: produktsicherheit@analytichem.de  
Internet: www.analytichem.de  
Responsible Department: Abteilung Produktsicherheit

##### 1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

##### Further Information

This product is a mixture. REACH Registration Number see section 3.

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Regulation (EC) No 1272/2008

Flam. Liq. 3; H226  
Skin Corr. 1A; H314  
Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

##### 2.2. Label elements

###### Regulation (EC) No 1272/2008

###### Hazard components for labelling

acetic acid

Signal word: Danger

###### Pictograms:



###### Hazard statements

H226 Flammable liquid and vapour.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Essigsäure 97,5 % ± 0,4 % (m/m)**

Revision date: 17.03.2025

Product code: 34997

Page 2 of 12

H314 Causes severe skin burns and eye damage.

**Precautionary statements**

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P260 Do not breathe mist/vapours/spray.
- P280 Wear protective gloves/protective clothing and eye protection/face protection.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Immediately call a POISON CENTER/doctor.

**2.3. Other hazards**

No data available

**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

**Relevant ingredients**

CAS No	Chemical name	Quantity
	EC No	Index No
	REACH No	
	Classification (Regulation (EC) No 1272/2008)	
64-19-7	acetic acid	95 - < 100 %
	200-580-7	607-002-00-6
		01-2119475328-30
	Flam. Liq. 3, Skin Corr. 1A, Eye Dam. 1; H226 H314 H318	

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

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
64-19-7	200-580-7	acetic acid	95 - < 100 %
	oral: LD50 = 3310 mg/kg Skin Corr. 1A; H314: >= 90 - 100 Skin Corr. 1B; H314: >= 25 - < 90 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25		

**Further Information**

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**General information**

Self-protection of the first aider

**After inhalation**

- Provide fresh air.
- Call a physician immediately.

**After contact with skin**

- Wash immediately with: Water
- Take off immediately all contaminated clothing and wash it before reuse.
- Call a physician immediately.

**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.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Essigsäure 97,5 % ± 0,4 % (m/m)

Revision date: 17.03.2025

Product code: 34997

Page 3 of 12

#### After ingestion

- Rinse mouth immediately and drink plenty of water.
- Do NOT induce vomiting.
- Do not allow a neutralisation agent to be drunk.
- Call a physician immediately.

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

- Irritant
- corrosive
- Dyspnoea
- Gastrointestinal complaints
- Vomiting
- Circulatory collapse
- Corneal opacity.
- Risk of serious damage to eyes.

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

No data available

## SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

##### Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

##### Unsuitable extinguishing media

no restriction

#### 5.2. Special hazards arising from the substance or mixture

- Combustible liquids
- Hazardous combustion products
- In case of fire may be liberated:  
Carbon dioxide (CO<sub>2</sub>) Carbon monoxide
- Acetic acid vapour
- Vapours are heavier than air, spread along floors and form explosive mixtures with air.
- Heating causes rise in pressure with risk of bursting.

#### 5.3. Advice for firefighters

- In case of fire: Wear self-contained breathing apparatus.
- In case of fire and/or explosion do not breathe fumes.
- Avoid contact with skin, eyes and clothes.

#### Additional information

- Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
- Move undamaged containers from immediate hazard area if it can be done safely.
- Use water spray jet to protect personnel and to cool endangered containers.

## SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### General advice

- Keep away from sources of ignition - No smoking.
- This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe).
- Take action to prevent static discharges.

##### For non-emergency personnel

- Provide adequate ventilation.
- Use personal protection equipment.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Essigsäure 97,5 % ± 0,4 % (m/m)

Revision date: 17.03.2025

Product code: 34997

Page 4 of 12

Avoid contact with skin, eyes and clothes.  
Remove persons to safety.  
Emergency procedures  
Consult an expert  
Do not breathe dust/fume/gas/mist/vapours/spray.

#### For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

#### 6.2. Environmental precautions

Do not allow to enter into surface water or drains.  
The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.  
Danger of explosion

#### 6.3. Methods and material for containment and cleaning up

##### For containment

Cover drains.  
Prevent spread over a wide area (e.g. by containment or oil barriers).  
Collect in closed and suitable containers for disposal.  
Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

##### For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

##### Other information

Provide adequate ventilation.  
Do not breathe dust/fume/gas/mist/vapours/spray.  
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

#### 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

Read label before use. Handle and open container with care.  
When using do not eat, drink, smoke, sniff. Keep container tightly closed.  
Use personal protection equipment. Use extractor hood (laboratory).  
Do not breathe gas/fumes/vapour/spray. Provide adequate ventilation.

#### Advice on protection against fire and explosion

Take action to prevent static discharges. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

#### Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.  
The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

#### Further information on handling

Take off immediately all contaminated clothing and wash it before reuse.  
Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. If handled uncovered, arrangements with local exhaust ventilation have to be used.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

Store in a well-ventilated place. Keep container tightly closed.  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Essigsäure 97,5 % ± 0,4 % (m/m)**

Revision date: 17.03.2025

Product code: 34997

Page 5 of 12

**Hints on joint storage**

national regulations

**Further information on storage conditions**

Store in a dry place.

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

Laboratory chemicals

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Occupational exposure limits**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
64-19-7	Acetic acid	10	25		TWA (8 h)	
		20	50		STEL (15 min)	

**DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
64-19-7	acetic acid			
Worker DNEL, long-term		inhalation	local	25 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	local	25 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	local	25 mg/m <sup>3</sup>
Consumer DNEL, acute		inhalation	local	25 mg/m <sup>3</sup>

**PNEC values**

CAS No	Substance	Value
64-19-7	acetic acid	
Environmental compartment		
Freshwater		3,058 mg/l
Freshwater (intermittent releases)		30,58 mg/l
Marine water		0,306 mg/l
Freshwater sediment		11,36 mg/kg
Marine sediment		1,136 mg/kg
Micro-organisms in sewage treatment plants (STP)		85 mg/l
Soil		0,47 mg/kg

**8.2. Exposure controls**

**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

goggles

Face protection umbrella

**Hand protection**

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) With specification (test according to EN374):

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Essigsäure 97,5 % ± 0,4 % (m/m)

Revision date: 17.03.2025

Product code: 34997

Page 6 of 12

By long-term hand contact  
KCL 897 Butoject®  
Butyl caoutchouc (butyl rubber) 0,3 mm  
Wearing time with permanent contact: > 480 min

By short-term hand contact  
KCL 890 Vitoject®  
FKM (fluoro rubber) 0,7 mm  
Wearing time with occasional contact (splashes): > 60 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet (>, <) supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

#### Skin protection

Take off immediately all contaminated clothing and wash it before reuse.  
Wear fire resistant or flame retardant clothing.  
Wash hands and face before breaks and after work and take a shower if necessary.  
Draw up and observe skin protection programme.

#### Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.  
Filtering device (full mask or mouthpiece) with filter: E-(P2)  
The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

#### Thermal hazards

No data available

#### Environmental exposure controls

Do not allow to enter into surface water or drains.  
Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.  
Danger of explosion

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	colourless
Odour:	stinging
Odour threshold:	No data available
Melting point/freezing point:	17 °C
Boiling point or initial boiling point and boiling range:	116-118 °C
Flammability:	No data available
Lower explosion limits:	4 vol. %
Upper explosion limits:	19,9 vol. %
Flash point:	39 °C
Auto-ignition temperature:	463 °C
Decomposition temperature:	No data available
pH-Value (at 20 °C):	acidic
Viscosity / kinematic: (at 20 °C)	1,17 mm <sup>2</sup> /s

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Essigsäure 97,5 % ± 0,4 % (m/m)**

Revision date: 17.03.2025

Product code: 34997

Page 7 of 12

Water solubility: (at 25 °C)	602,9 g/l
Solubility in other solvents No data available	
Dissolution rate:	No data available
Partition coefficient n-octanol/water:	No data available
Dispersion stability:	No data available
Vapour pressure: (at 20 °C)	16 hPa hPa
Vapour pressure:	No data available
Relative density:	No data available
Bulk density:	No data available
Relative vapour density:	No data available

**9.2. Other information**

**Information with regard to physical hazard classes**

**Explosive properties**

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Sustained combustibility: Sustained combustibility

**Self-ignition temperature**

Solid: No data available

Gas: No data available

**Oxidizing properties**

No data available

**Other safety characteristics**

Evaporation rate: No data available

Solvent separation test: No data available

Solid content: No data available

Sublimation point: No data available

Softening point: No data available

Pour point: No data available

Viscosity / dynamic: 1,22 mPa·s

(at 20 °C)

Flow time: No data available

**Further Information**

No data available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

In case of warming: Vapours may form explosive mixtures with air.

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

- Oxidising agent
- peroxides, for example hydrogen peroxide
- permanganates, e.g. potassium permanganate
- Oxidising agent, strong
- Metal
- iron and steel
- Zinc
- Alkali (lye)

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Essigsäure 97,5 % ± 0,4 % (m/m)**

Revision date: 17.03.2025

Product code: 34997

Page 8 of 12

aldehydes  
Alcohols  
Nitric acid

**10.4. Conditions to avoid**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**10.5. Incompatible materials**

Metal

**10.6. Hazardous decomposition products**

SECTION 5: Firefighting measures

**Further information**

No data available

**SECTION 11: Toxicological information**

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

**Acute toxicity**

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

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

The substance has delayed effects.

**ATEmix calculated**

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
64-19-7	acetic acid				
	oral	LD50 mg/kg	3310	Rat	J Ind Hyg Toxicol, Vol 23, PP 78-82 (194) The sodium salt of acetic acid was admin

**Irritation and corrosivity**

Skin corrosion/irritation: Causes severe skin burns and eye damage.

Serious eye damage/eye irritation: Causes serious eye damage.

**Sensitising effects**

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

**Carcinogenic/mutagenic/toxic effects for reproduction**

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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

Reproductive toxicity: 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.

**Information on likely routes of exposure**

No data available

**Specific effects in experiment on an animal**

No data available

**Additional information on tests**

No data available



**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Essigsäure 97,5 % ± 0,4 % (m/m)**

Revision date: 17.03.2025

Product code: 34997

Page 9 of 12

**Practical experience**

No data available

**11.2. Information on other hazards**

**Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**Other information**

Irritant  
corrosive  
Dyspnoea  
Gastrointestinal complaints  
Vomiting  
Circulatory collapse  
Corneal opacity.  
Risk of serious damage to eyes.

**Further information**

Damage to: kidneys

**SECTION 12: Ecological information**

**12.1. Toxicity**

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

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
64-19-7	acetic acid					
	Acute fish toxicity	LC50 > 1000 mg/l	96 h	Oncorhynchus mykiss	Study report (2005)	other: SOP E257
	Acute algae toxicity	ErC50 > 1000 mg/l	72 h	Skeletonema costatum	Study report (2005)	ISO 10253
	Acute crustacea toxicity	EC50 > 1000 mg/l	48 h	Daphnia magna	Study report (1990)	OECD Guideline 202

**12.2. Persistence and degradability**

99 %; 30 d  
Readily biodegradable (according to OECD criteria).

**12.3. Bioaccumulative potential**

No indication of bioaccumulation potential.

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
64-19-7	acetic acid	-0,17

**BCF**

CAS No	Chemical name	BCF	Species	Source
64-19-7	acetic acid	3,16	fish	Environ. Toxicol. Ch

**12.4. Mobility in soil**

No data available

**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**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Essigsäure 97,5 % ± 0,4 % (m/m)

Revision date: 17.03.2025

Product code: 34997

Page 10 of 12

#### 12.7. Other adverse effects

Do not allow to enter into surface water or drains.  
Avoid release to the environment.  
Harmful effect due to pH shift.

#### **Further information**

No data available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### **Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.  
Send to a physico-chemical treatment facility under observation of official regulations.

##### **Contaminated packaging**

Handle contaminated packages in the same way as the substance itself.  
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

### SECTION 14: Transport information

#### **Land transport (ADR/RID)**

<u>14.1. UN number or ID number:</u>	UN 2789
<u>14.2. UN proper shipping name:</u>	ACETIC ACID SOLUTION
<u>14.3. Transport hazard class(es):</u>	8
<u>14.4. Packing group:</u>	II
Hazard label:	8+3
Classification code:	CF1
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	83
Tunnel restriction code:	D/E

#### **Inland waterways transport (ADN)**

<u>14.1. UN number or ID number:</u>	UN 2789
<u>14.2. UN proper shipping name:</u>	ACETIC ACID SOLUTION
<u>14.3. Transport hazard class(es):</u>	8
<u>14.4. Packing group:</u>	II
Hazard label:	8+3
Classification code:	CF1
Limited quantity:	1 L
Excepted quantity:	E2

#### **Marine transport (IMDG)**

<u>14.1. UN number or ID number:</u>	UN 2789
<u>14.2. UN proper shipping name:</u>	ACETIC ACID SOLUTION
<u>14.3. Transport hazard class(es):</u>	8
<u>14.4. Packing group:</u>	II
Hazard label:	8+3
Special Provisions:	-
Limited quantity:	1 L
Excepted quantity:	E2
EmS:	F-E, S-C
Segregation group:	1 - acids

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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Essigsäure 97,5 % ± 0,4 % (m/m)**

Revision date: 17.03.2025

Product code: 34997

Page 11 of 12

<b>14.1. UN number or ID number:</b>	UN 2789
<b>14.2. UN proper shipping name:</b>	ACETIC ACID SOLUTION
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	II
Hazard label:	8+3
Limited quantity Passenger:	0.5 L
Passenger LQ:	Y840
Excepted quantity:	E2
IATA-packing instructions - Passenger:	851
IATA-max. quantity - Passenger:	1 L
IATA-packing instructions - Cargo:	855
IATA-max. quantity - Cargo:	30 L

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**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, Entry 75

Information according to Directive 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

**SECTION 16: Other information**

**Abbreviations and acronyms**

Flam. Liq: Flammable liquid

Skin Corr: Skin corrosion

Eye Dam: Eye damage

**Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]**

Classification	Classification procedure
Flam. Liq. 3; H226	On basis of test data
Skin Corr. 1A; H314	Calculation method
Eye Dam. 1; H318	Calculation method

**Relevant H and EUH statements (number and full text)**

H226	Flammable liquid and vapour.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

**Further Information**

Provide appropriate information, instructions and training to users  
The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. 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.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Essigsäure 97,5 % ± 0,4 % (m/m)

Revision date: 17.03.2025

Product code: 34997

Page 12 of 12

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

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