

# Acetic acid, Glacial

## Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 29/03/2017 Version: 0.0

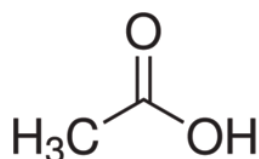
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### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Substance  
Substance name : Acetic acid, Glacial  
EC Index-No. : 607-002-00-6  
EC-No. : 200-580-7  
CAS-No. : 64-19-7  
Type of product : Pure substance  
Formula : C<sub>2</sub>H<sub>4</sub>O<sub>2</sub>  
Chemical structure :



Synonyms : Acetic acid, glacial / Aci-Gel / Aci-Jel / alcohol of vinegar / carboxylic acid C2 / ethanoic acid / ethylic acid / FEMA No 2006 / fema number 2006 / glacial acetic acid / methanecarboxylic acid / pyroligneous acid / vinegar / vinegar acid / vosol  
BIG no : 14329

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

##### 1.2.1. Relevant identified uses

Use of the substance/mixture : Chemical intermediate  
Solvent  
Food industry: additive  
Laboratory chemical  
Photographic chemical

##### 1.2.2. Uses advised against

No additional information available

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

ISOLAB Laborgeräte GmbH  
Am Dillhof 2 - 63863 Eschau / GERMANY  
Tel: + 49 93 74 / 978 55-0  
Fax: +49 93 74 / 978 55-29  
[prodsafe@isolab.de](mailto:prodsafe@isolab.de)

#### 1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Germany	Giftnotruf der Charité CBF, Haus VIII (Wirtschaftgebäude), UG	Hindenburgdamm 30 12203 Berlin	+49 30 19240	

### SECTION 2: Hazards identification

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

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 3 H226  
Corrosive to metals 1 H290  
Skin Corr. 1A H314

Full text of hazard classes and H-statements : see section 16

Specific concentration limits:

( 10 =<C < 25) Eye Irrit. 2, H319  
( 10 =<C < 25) Skin Irrit. 2, H315  
( 25 =<C < 90) Skin Corr. 1B, H314  
( C >= 90) Skin Corr. 1A, H314

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### Adverse physicochemical, human health and environmental effects

No additional information available

## 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS02

GHS05

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H226 - Flammable liquid and vapour  
H290 - May be corrosive to metals  
H314 - Causes severe skin burns and eye damage

Precautionary statements (CLP) :

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P310- IF exposed or concerned: immediately call a POISON CENTER or doctor/physician.

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name	Product identifier	%
Acetic acid, Glacial	(CAS-No.) 64-19-7 (EC-No.) 200-580-7 (EC Index-No.) 607-002-00-6	100

Full text of H-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general

: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

First-aid measures after inhalation

: Remove the victim into fresh air. Immediately consult a doctor/medical service. Doctor: administration of corticoid spray.

First-aid measures after skin contact

: Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.

First-aid measures after eye contact

: Rinse immediately with plenty of water for 15 minutes. Do not apply neutralizing agents. Take victim to an ophthalmologist.

First-aid measures after ingestion

: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Give milk to drink. Do not induce vomiting. Do not give activated charcoal. Immediately consult a doctor/medical service. Call Poison Information Centre ([www.big.be/antigif.htm](http://www.big.be/antigif.htm)). Take the container/vomit to the doctor/hospital. Ingestion of large quantities: immediately to hospital. Do not give chemical antidote. Doctor: gastric lavage is not recommended.

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

Symptoms/effects after inhalation	: Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Coughing. EXPOSURE TO HIGH CONCENTRATIONS: Corrosion of the upper respiratory tract. FOLLOWING SYMPTOMS MAY APPEAR LATER: Respiratory difficulties. Possible inflammation of the respiratory tract. Risk of pneumonia. Risk of lung oedema.
Symptoms/effects after skin contact	: Caustic burns/corrosion of the skin.
Symptoms/effects after eye contact	: Corrosion of the eye tissue. Permanent eye damage.
Symptoms/effects after ingestion	: Risk of aspiration pneumonia. Burns to the gastric/intestinal mucosa. Possible esophageal perforation. Blood in vomit. Diarrhoea. Shock. Change in the haemogramme/blood composition. Change in urine composition. Decreased renal function.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Red skin. May stain the skin. Slight irritation. Inflammation/damage of the eye tissue. Dry/sore throat. Possible inflammation of the respiratory tract. Affection/discolouration of the teeth. Gastrointestinal complaints.

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

No additional information available

## SECTION 5: Fire-fighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Polyvalent foam. Alcohol-resistant foam. BC powder. Carbon dioxide.
Unsuitable extinguishing media	: No unsuitable extinguishing media known.

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

Fire hazard	: DIRECT FIRE HAZARD. Flammable. Gas/vapour flammable with air within explosion limits. INDIRECT FIRE HAZARD. May be ignited by sparks. Reactions involving a fire hazard: see "Reactivity Hazard".
Explosion hazard	: DIRECT EXPLOSION HAZARD. Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD. may be ignited by sparks. Reactions with explosion hazards: see "Reactivity Hazard".

### 5.3. Advice for firefighters

Firefighting instructions	: Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Dilute toxic gases with water spray. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.
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## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Protective equipment	: Gas-tight suit. Corrosion-proof suit. See "Material-Handling" to select protective clothing.
Emergency procedures	: Keep upwind. Mark the danger area. Consider evacuation. Seal off low-lying areas. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment. Keep containers closed. Wash contaminated clothes.

#### 6.1.2. For emergency responders

No additional information available

### 6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

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

For containment	: Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute combustible/toxic gases/vapours with water spray. Take account of toxic/corrosive precipitation water. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.
Methods for cleaning up	: Take up liquid spill into inert absorbent material, e.g.: sand, earth, vermiculite or kieselguhr, powdered limestone. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

### 6.4. Reference to other sections

No additional information available

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Keep the substance free from contamination. Use corrosionproof equipment. Handle uncleaned empty containers as full ones. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over. Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Observe very strict hygiene - avoid contact. Keep container tightly closed. Measure the concentration in the air regularly. Work under local exhaust/ventilation. Exhaust gas must be neutralised.

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

Storage temperature : 15 °C - 25 °C  
Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.  
Information on mixed storage : KEEP SUBSTANCE AWAY FROM: combustible materials. oxidizing agents. (strong) bases. metals. alcohols. amines. water/moisture.  
Storage area : Store in a dry area. Ventilation at floor level. Keep out of direct sunlight. Fireproof storeroom. Keep locked up. Protect against frost. Provide for a tub to collect spills. Provide the tank with earthing. Detached building. Store only in a limited quantity. Meet the legal requirements.  
Special rules on packaging : SPECIAL REQUIREMENTS: closing. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.  
Packaging materials : SUITABLE MATERIAL: aluminium. glass. MATERIAL TO AVOID: steel. iron. zinc. lead. copper. bronze.

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

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

Acetic acid, Glacial (64-19-7)		
EU	Local name	Acetic acid
EU	IOELV TWA (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup> (Acetic acid; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
EU	IOELV TWA (ppm)	10 ppm (Acetic acid; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
EU	IOELV STEL (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
EU	IOELV STEL (ppm)	20 ppm
Austria	Local name	Essigsäure
Austria	MAK (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Austria	MAK (ppm)	10 ppm
Austria	MAK Short time value (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Austria	MAK Short time value (ppm)	20 ppm
Belgium	Local name	Acide acétique # Azijnzuur
Belgium	Limit value (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup> (Acide acétique; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	10 ppm (Acide acétique; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Short time value (mg/m <sup>3</sup> )	38 mg/m <sup>3</sup> (Acide acétique; Belgium; Short time value)
Belgium	Short time value (ppm)	15 ppm (Acide acétique; Belgium; Short time value)
Bulgaria	Local name	Оцетна киселина
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Bulgaria	OEL STEL (mg/m <sup>3</sup> )	37 mg/m <sup>3</sup>
Bulgaria	Notes	• (Химични агенти, за които са определени гранични стойности във въздуха на работната среда за Европейската общност)
Croatia	Local name	Octena kiselina
Croatia	GVI (granična vrijednost izloženosti) (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Croatia	GVI (granična vrijednost izloženosti) (ppm)	10 ppm

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Croatia	Naznake (HR)	EU (naznaka da se radi o tvarima za koje su utvrđene indikativne granične vrijednosti izloženosti prema Direktivi 91/322/ EEC); C (nagrizajuće)
Czech Republic	Local name	Kyselina octová
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (PEL) (ppm)	10 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m <sup>3</sup> )	35 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (NPK-P) (ppm)	14.3 ppm
Denmark	Local name	Eddikesyre (Ethansyre)
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (ppm)	10 ppm
Denmark	Anmærkninger (DK)	E (betyder, at stoffet har en EF-grænseværdi)
Estonia	Local name	Etaanhape (äädikhape)
Estonia	OEL TWA (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Estonia	OEL TWA (ppm)	10 ppm
Estonia	OEL STEL (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Estonia	OEL STEL (ppm)	10 ppm
Finland	Local name	Etikkahappo
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	13 mg/m <sup>3</sup>
Finland	HTP-arvo (8h) (ppm)	5 ppm
Finland	HTP-arvo (15 min)	25 mg/m <sup>3</sup>
Finland	HTP-arvo (15 min) (ppm)	10 ppm
France	Local name	Acide acétique
France	VLE (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup> (Acide acétique; France; Short time value; VL: Valeur non réglementaire indicative)
France	VLE (ppm)	10 ppm (Acide acétique; France; Short time value; VL: Valeur non réglementaire indicative)
France	Note (FR)	Valeurs recommandées/admises
Germany	Local name	Essigsäure
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Germany	TRGS 900 Occupational exposure limit value (ppm)	10 ppm
Germany	Remark (TRGS 900)	DFG,EU,Y
Gibraltar	Eight hours mg/m <sup>3</sup>	25 mg/m <sup>3</sup>
Gibraltar	Eight hours ppm	10 ppm
Gibraltar	Name of agent	Acetic acid
Greece	OEL TWA (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Greece	OEL TWA (ppm)	10 ppm
Greece	OEL STEL (mg/m <sup>3</sup> )	37 mg/m <sup>3</sup>
Greece	OEL STEL (ppm)	15 ppm
Hungary	Local name	ECETSAV
Hungary	AK-érték	25 mg/m <sup>3</sup>
Hungary	CK-érték	25 mg/m <sup>3</sup>
Hungary	Megjegyzések (HU)	m; l.
Ireland	Local name	Acetic acid
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	10 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	37 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	15 ppm
Ireland	Notes (IE)	IOELV
Latvia	Local name	Etiķskābe, etānskābe

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Latvia	OEL TWA (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Latvia	OEL TWA (ppm)	10 ppm
Lithuania	Local name	Acto rūgštis
Lithuania	IPRV (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	10 ppm
Luxembourg	Local name	Acide acétique
Luxembourg	OEL TWA (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Luxembourg	OEL TWA (ppm)	10 ppm
Malta	Local name	Acetic acid
Malta	OEL TWA (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Malta	OEL TWA (ppm)	10 ppm
Netherlands	Local name	Azijnzuur
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup> (Azijnzuur; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
Poland	Local name	Kwas octowy
Poland	NDS (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Poland	NDSch (mg/m <sup>3</sup> )	30 mg/m <sup>3</sup>
Portugal	Local name	Ácido acético
Portugal	OEL TWA (ppm)	10 ppm
Portugal	OEL STEL (ppm)	15 ppm
Romania	Local name	Acid acetic
Romania	OEL TWA (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Romania	OEL TWA (ppm)	10 ppm
Slovakia	Local name	Kyselina octová (kyselina etánová)
Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Slovakia	NPHV (priemerná) (ppm)	10 ppm
Slovenia	Local name	očetna kislina
Slovenia	OEL TWA (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Slovenia	OEL TWA (ppm)	10 ppm
Spain	Local name	Ácido acético
Spain	VLA-ED (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Spain	VLA-ED (ppm)	10 ppm
Spain	VLA-EC (mg/m <sup>3</sup> )	37 mg/m <sup>3</sup>
Spain	VLA-EC (ppm)	15 ppm
Spain	Notes	VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país).
Sweden	Local name	Ättiksyra
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	13 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (ppm)	5 ppm
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	10 ppm
Sweden	Anmärkning (SE)	V (Vägledande kortidsgränsvärde ska användas som ett rekommenderat högsta värde som inte bör överskridas)
Iceland	Local name	Ediksýra (etansýra)

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Iceland	OEL (8 hours ref) (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Iceland	OEL (8 hours ref) (ppm)	10 ppm
Russian Federation	Local name	Этановая кислота+
Russian Federation	OEL Ceiling (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
Russian Federation	Remark (RU)	3 класс опасности - опасное; п (пары и/или газы); + (соединения, при работе с которыми требуется специальная защита кожи и глаз; символ проставлен вслед за наименованием вещества)
Norway	Local name	Eddiksyre
Norway	Grenseverdier (AN) (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Norway	Grenseverdier (AN) (ppm)	10 ppm
Norway	Merknader (NO)	E (EU har en veiledende grenseverdi for stoffet)
Switzerland	Local name	Essigsäure
Switzerland	VME (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Switzerland	VME (ppm)	10 ppm
Switzerland	VLE (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Switzerland	VLE (ppm)	20 ppm
Switzerland	Remark (CH)	SS <sub>C</sub> - Auge, OAW <sup>KT HU</sup> & Lunge <sup>KT HU</sup> - NIOSH, OSHA
Turkey	Local name	Asetik asit
Turkey	OEL TWA (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Turkey	OEL TWA (ppm)	10 ppm
Australia	Local name	Acetic acid
Australia	TWA (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Australia	TWA (ppm)	10 ppm
Australia	STEL (mg/m <sup>3</sup> )	37 mg/m <sup>3</sup>
Australia	STEL (ppm)	15 ppm
USA - ACGIH	Local name	Acetic acid
USA - ACGIH	ACGIH TWA (ppm)	10 ppm (Acetic acid; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
USA - ACGIH	ACGIH STEL (ppm)	15 ppm (Acetic acid; USA; Short time value; TLV - Adopted Value)
USA - ACGIH	Remark (ACGIH)	URT & eye irr; pulm func
USA - OSHA	Local name	Acetic acid
USA - OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
USA - OSHA	OSHA PEL (TWA) (ppm)	10 ppm

## 8.2. Exposure controls

### Materials for protective clothing:

GIVE EXCELLENT RESISTANCE: butyl rubber. polyethylene/ethylenevinylalcohol. viton. GIVE GOOD RESISTANCE: neoprene. GIVE LESS RESISTANCE: natural rubber. PVC. GIVE POOR RESISTANCE: polyethylene. PVA

### Hand protection:

Gloves

### Eye protection:

Safety glasses

### Skin and body protection:

Head/neck protection. Corrosion-proof clothing

### Respiratory protection:

Wear gas mask with filter type A if conc. in air > exposure limit. High vapour/gas concentration: self-contained respirator

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### SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Appearance	: Liquid.
Molecular mass	: 60.05 g/mol
Colour	: Colourless.
Odour	: Irritating/pungent odour. Vinegar odour.
Odour threshold	: 1 ppm 2.5 mg/m <sup>3</sup>
pH	: 2.5 (at 50 g/l 20 °C)
pH solution	: 5 %
Relative evaporation rate (butylacetate=1)	: 0.97
Relative evaporation rate (ether=1)	: 11
Melting point	: 17 °C
Freezing point	: No data available
Boiling point	: 116-118 °C
Flash point	: 39 °C
Critical temperature	: 322 °C
Auto-ignition temperature	: 485 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 15.4 hPa at 20 °C
Critical pressure	: 45300 hPa
Relative vapour density at 20 °C	: 2.1
Relative density	: 1
Relative density of saturated gas/air mixture	: 1
Density	: 1.05 g/cm <sup>3</sup> at 20 °C
Solubility	: Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in tetrachloromethane. Soluble in glycerol. Soluble in dimethyl sulfoxide. Water: Complete Ethanol: Complete Ether: Complete Acetone: Complete
Log Pow	: -0.17 (Experimental value; 25 °C)
Viscosity, kinematic	: 1.17 mm <sup>2</sup> /s at 20 °C
Viscosity, dynamic	: 0.0012 Pa.s (20 °C)
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

#### 9.2. Other information

Specific conductivity	: 600000 pS/m
VOC content	: 100 %
Other properties	: Gas/vapour heavier than air at 20°C. Clear. Hygroscopic. Volatile. Substance has acid reaction.

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

On heating: release of corrosive/combustible gases/vapours (acetic acid vapours). Upon combustion: CO and CO<sub>2</sub> are formed. Violent to explosive reaction with many compounds e.g.: with (strong) oxidizers: (increased) risk of fire/explosion. Reacts violently with (some) bases. Reacts with (some) metals: release of highly flammable gases/vapours (hydrogen).

#### 10.2. Chemical stability

Hygroscopic.

#### 10.3. Possibility of hazardous reactions

No additional information available

#### 10.4. Conditions to avoid

No additional information available



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### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Acetic acid, Glacial (64-19-7)	
LD50 oral rat	3310 mg/kg bodyweight (Rat; Other; Read-across)

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

pH: 2.4 (6 %)

Serious eye damage/irritation : Serious eye damage, category 1, implicit

pH: 2.4 (6 %)

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Acetic acid, Glacial (64-19-7)	
Viscosity, kinematic	1.17 mm <sup>2</sup> /s at 20 °C

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.

Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). Not included in the list of fluorinated greenhouse gases (Regulation (EC) No 842/2006). TA-Luft Klasse 5.2.5/II.

Ecology - water : Slightly harmful to fishes (LC50(96h) >100 mg/l). Slightly harmful to invertebrates (Daphnia) (EC50 (48h) > 100 mg/l). Not harmful to algae (EC50 (72h) >1000 mg/l). pH shift. Inhibition of activated sludge.

### 12.2. Persistence and degradability

Acetic acid, Glacial (64-19-7)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.6 - 0.74 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.03 g O <sub>2</sub> /g substance
ThOD	1.07 g O <sub>2</sub> /g substance

### 12.3. Bioaccumulative potential

Acetic acid, Glacial (64-19-7)	
BCF fish 1	3.16 (BCF; Pisces)
Log Pow	-0.17 (Experimental value; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

### 12.4. Mobility in soil

Acetic acid, Glacial (64-19-7)	
Surface tension	0.028 N/m (20 °C)
Log Koc	log Koc,0.06; QSAR
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

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### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Remove for physico-chemical/biological treatment. Remove to an authorized waste incinerator for solvents with energy recovery. Do not discharge into drains or the environment. May be discharged to wastewater treatment installation.

Additional information : LWCA (the Netherlands): KGA category 06. Hazardous waste according to Directive 2008/98/EC.

European List of Waste (LoW) code : 07 01 04\* - other organic solvents, washing liquids and mother liquors

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
2789	2789	2789	2789	2789
<b>14.2. UN proper shipping name</b>				
ACETIC ACID, GLACIAL	ACETIC ACID, GLACIAL	Acetic acid, glacial	ACETIC ACID, GLACIAL	ACETIC ACID, GLACIAL
<b>Transport document description</b>				
UN 2789 ACETIC ACID, GLACIAL, 8 (3), II, (D/E)	UN 2789 ACETIC ACID, GLACIAL, 8 (3), II	UN 2789 Acetic acid, glacial, 8 (3) (3), II	UN 2789 ACETIC ACID, GLACIAL, 8 (3), II	UN 2789 ACETIC ACID, GLACIAL, 8 (3), II
<b>14.3. Transport hazard class(es)</b>				
8 (3)	8 (3)	8 (3)	8 (3)	8 (3)
<b>14.4. Packing group</b>				
II	II	II	II	II
<b>14.5. Environmental hazards</b>				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : CF1  
Limited quantities (ADR) : 11  
Excepted quantities (ADR) : E2  
Packing instructions (ADR) : P001, IBC02  
Mixed packing provisions (ADR) : MP15  
Portable tank and bulk container instructions (ADR) : T7  
Portable tank and bulk container special provisions (ADR) : TP2  
Tank code (ADR) : L4BN  
Vehicle for tank carriage : FL  
Transport category (ADR) : 2

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Special provisions for carriage - Operation (ADR) : S2

Hazard identification number (Kemler No.) : 83

Orange plates :



Tunnel restriction code (ADR) : D/E

### - Transport by sea

Transport regulations (IMDG) : Subject

Limited quantities (IMDG) : 1 L

Excepted quantities (IMDG) : E2

Packing instructions (IMDG) : P001

IBC packing instructions (IMDG) : IBC02

Tank instructions (IMDG) : T7

Tank special provisions (IMDG) : TP2

EmS-No. (Fire) : F-E

EmS-No. (Spillage) : S-C

Stowage category (IMDG) : A

Properties and observations (IMDG) : Colourless flammable liquid with a pungent odour. When pure, crystallizes below 16°C. Flashpoint: 40°C c.c. (pure product) 60°C c.c. (80% solution) Explosive limits: 4% to 17% Miscible with water. Corrosive to lead and most other metals. Corrosive to skin, eyes and mucous membranes.

MFAG-No : 132

### - Air transport

Transport regulations (IATA) : Subject to the provisions

PCA Excepted quantities (IATA) : E2

PCA Limited quantities (IATA) : Y840

PCA limited quantity max net quantity (IATA) : 0.5L

PCA packing instructions (IATA) : 851

PCA max net quantity (IATA) : 1L

CAO packing instructions (IATA) : 855

CAO max net quantity (IATA) : 30L

ERG code (IATA) : 8F

### - Inland waterway transport

Classification code (ADN) : CF1

Limited quantities (ADN) : 1 L

Excepted quantities (ADN) : E2

Carriage permitted (ADN) : T

Equipment required (ADN) : PP, EP, EX, A

Ventilation (ADN) : VE01

Number of blue cones/lights (ADN) : 1

### - Rail transport

Transport regulations (RID) : Subject

Classification code (RID) : CF1

Limited quantities (RID) : 1L

Excepted quantities (RID) : E2

Packing instructions (RID) : P001, IBC02

Mixed packing provisions (RID) : MP15

Portable tank and bulk container instructions (RID) : T7

Portable tank and bulk container special provisions (RID) : TP2

Tank codes for RID tanks (RID) : L4BN

Transport category (RID) : 2

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Colis express (express parcels) (RID) : CE6

Hazard identification number (RID) : 83

### 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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Acetic acid, Glacial is not on the REACH Candidate List

Acetic acid, Glacial is not on the REACH Annex XIV List

VOC content : 100 %

#### 15.1.2. National regulations

##### Germany

VwVwS Annex reference : Water hazard class (WGK) 1, low hazard to waters (Classification according to VwVwS, Annex 1 or 2; ID No. 93)

WGK remark : Classification water polluting in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 2)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

##### Denmark

Class for fire hazard : Class II-1

Store unit : 5 liter

Classification remarks : R10 <H226;H314>; Emergency management guidelines for the storage of flammable liquids must be followed

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product  
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
EC50	Median effective concentration
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006

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RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
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Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Full text of H- and EUH-statements:	
Flam. Liq. 3	Flammable liquids, Category 3
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
H226	Flammable liquid and vapour
H314	Causes severe skin burns and eye damage
H290	May be corrosive to metals

SDS ISOLAB

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*