



Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Essigsäure 60% techn.

Version number: 5.0
Replaces version of: 2012-12-05 (4)

Revision: 2016-02-26
First version: 01.04.2006

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

1.1 Product identifier

Trade name	<u>Essigsäure 60% techn.</u>
Registration number (REACH)	not relevant (mixture)
CAS number	not relevant (mixture)

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

Relevant identified uses	Chemicals for various applications Solvent for various applications Intermediate for organic synthesis
Uses advised against	Do not use for squirting or spraying Do not use for products which come into direct contact with the skin

1.3 Details of the supplier of the safety data sheet

BERGCHEMIE J.C.Bröcking & Co. GmbH Rudolfstrasse 14 42285 Wuppertal Germany	Telephone: ++49 (0) 202 - 45 60 60 Telefax: ++49 (0) 202 / 44 79 32
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E-mail address of competent person responsible for the SDS sdb@csb-online.de

Please do not use this e-mail address to ask for the latest safety data sheet. For this purpose contact BERGCHEMIE J.C.Bröcking & Co. GmbH.

1.4 Emergency telephone number

As above or next toxicological information centre.

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Classification acc. to GHS				
Section	Hazard class	Category	Hazard class and category	Hazard statement
2.16	substance or mixture corrosive to metals	1	Met. Corr. 1	H290
3.2	skin corrosion/irritation	1B	Skin Corr. 1B	H314
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318

for full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.

Additional information

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word danger

Pictograms

GHS05



Hazard statements

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

Precautionary statements

P260 Do not breathe mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water/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.

P406 Store in corrosive resistant container with a resistant inner liner.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous ingredients for labelling Acetic acid

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2.3 Other hazards

There is no additional information.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.


SECTION 3: Composition/information on ingredients

3.1 Substances

not relevant (mixture)

3.2 Mixtures

Description of the mixture

Hazardous ingredients acc. to GHS				
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
Acetic acid	CAS No 64-19-7 EC No 200-580-7 Index No 607-002-00-6 REACH Reg. No 01-2119475328-30- XXXX	~60	Flam. Liq. 3 / H226 Skin Corr. 1A / H314 Eye Dam. 1 / H318	

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Take off immediately all contaminated clothing.

Remove affected person from the danger area and lay down.

Following inhalation

Provide fresh air.

Get medical advice/attention.

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Following skin contact

Wash with plenty of soap and water.

Call a physician immediately. Causes poorly healing wounds.

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Following eye contact

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Remove contact lenses, if present and easy to do. Continue rinsing.

Following ingestion

Rinse mouth immediately and drink plenty of water.
Do NOT induce vomiting.
IF SWALLOWED: Immediately call a doctor.

Notes for the doctor

none

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

water spray

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.
Vapours may form explosive mixtures with air.
Substance or mixture corrosive to metals.

Hazardous combustion products

carbon monoxide (CO), carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.
Co-ordinate firefighting measures to the fire surroundings.
Do not allow firefighting water to enter drains or water courses.
Collect contaminated firefighting water separately.
Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

self-contained breathing apparatus (EN 133)

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

Ventilate affected area.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose it.

6.3 Methods and material for containment and cleaning up

Advices on how to clean up a spill

Collect spillage.

Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.).

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal.

Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5.

Personal protective equipment: see section 8.

Incompatible materials: see section 10.

Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Avoidance of ignition sources.

Take precautionary measures against static discharge.

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

Specific notes/details

None.

Handling of incompatible substances or mixtures

Do not mix with alkali.

Keep away from

caustic solutions

Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

Do not to eat, drink and smoke in work areas.

Wash hands after use.

Preventive skin protection (barrier creams/ointments) is recommended.

Remove contaminated clothing and protective equipment before entering eating areas.

Avoid contact with skin and eyes.

Do not breathe vapour/spray.

7.2 Conditions for safe storage, including any incompatibilities**Corrosive conditions**

Store in corrosive resistant container with a resistant inner liner.

Flammability hazards

None.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Observe hints for combined storage.

Do not mix with

caustic solutions, strong oxidisers

Protect against external exposure, such as

heat

Consideration of other advice

Keep away from food, drink and animal feedingstuffs.

Ventilation requirements

Provision of sufficient ventilation.

Specific designs for storage rooms or vessels

Classified as corrosive to metals.

Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

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7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

No data available.

Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of agent	CAS No	Notation	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Source
EU	acetic acid	64-19-7		IOELV	10	25			91/322/EEC

Notation

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period unless otherwise specified

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average

Relevant DNELs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Acetic acid	64-19-7	DNEL	25 mg/m ³	human, inhalatory	worker (industry)	acute - local effects
Acetic acid	64-19-7	DNEL	25 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects

Relevant PNECs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
Acetic acid	64-19-7	PNEC	3.058 mg/l	aquatic organisms	freshwater	short-term (single instance)
Acetic acid	64-19-7	PNEC	0.3058 mg/l	aquatic organisms	marine water	short-term (single instance)
Acetic acid	64-19-7	PNEC	85 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Acetic acid	64-19-7	PNEC	11.36 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)

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Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Acetic acid	64-19-7	PNEC	1.136 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Acetic acid	64-19-7	PNEC	0.47 mg/kg	terrestrial organisms	soil	short-term (single instance)
Acetic acid	64-19-7	PNEC	30.58 mg/l	aquatic organisms	water	continuous

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Hand protection

Material	Material thickness	Breakthrough times of the glove material
NBR: acrylonitrile-butadiene rubber	this information is not available	>480 minutes (permeation: level 6)
IIR: isobutene-isoprene (butyl) rubber	≥ 0,5 mm	>480 minutes (permeation: level 6)
NR: natural rubber, latex	this information is not available	>480 minutes (permeation: level 6)
CR: chloroprene (chlorobutadiene) rubber	this information is not available	>480 minutes (permeation: level 6)

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

In the case of wanting to use the gloves again, clean them before taking off and air them well.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Self-contained breathing apparatus (EN 133).

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Environmental exposure controls

Use appropriate container to avoid environmental contamination.
Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid
Form	fluid
Colour	colourless
Odour	stinging
Odour threshold	these information are not available

Other safety parameters

pH (value)	~1 (water: 600 g/l, 20 °C) ~acid
Melting point/freezing point	-26 °C
Initial boiling point and boiling range	101 - 112 °C
Flash point	>100 °C
Evaporation rate	these information are not available
Flammability (solid, gas)	not relevant (fluid)

Explosive limits

Lower explosion limit (LEL)	4 vol%
Upper explosion limit (UEL)	17 vol%
Vapour pressure	23 hPa at 20 °C
Density	1.064 g/cm ³ at 20 °C
Vapour density	these information are not available
Relative density	these information are not available

Solubility(ies)

Water solubility	miscible in any proportion
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Partition coefficient

n-octanol/water (log KOW)	these information are not available
Auto-ignition temperature	485 °C
Decomposition temperature	these information are not available

Viscosity

Kinematic viscosity	these information are not available
Dynamic viscosity	2.1 mPa s at 20 °C
Explosive properties	not explosive
Oxidising properties	shall not be classified as oxidising

SECTION 10: Stability and reactivity

10.1 Reactivity

Substance or mixture corrosive to metals.

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

bases, oxidisers, peroxides, alcohol, metal

Release of flammable materials with:

light metals (due to the release of hydrogen in an acid/alkaline medium)

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.

Hazardous combustion products: see section 5.

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity estimate (ATE) of components of the mixture			
Name of substance	CAS No	Exposure route	ATE
Acetic acid	64-19-7	dermal	1,130

Acute toxicity of components of the mixture					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Acetic acid	64-19-7	oral	LD50	3,310 mg/kg	rat
Acetic acid	64-19-7	dermal	LD50	1,130 mg/kg	rabbit
Acetic acid	64-19-7	inhalation: vapour	LC50	5,620 mg/l/1h	mouse

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Classification procedure

The classification is based on an extreme pH value.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

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Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Test data are not available for the complete mixture.

Aquatic toxicity (acute) of components of the mixture

Aquatic toxicity (acute) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Acetic acid	64-19-7	LC50	>1,000 mg/l	fish	96 hours
Acetic acid	64-19-7	EC50	>1,000 mg/l	aquatic invertebrates	48 hours
Acetic acid	64-19-7	ErC50	>1,000 mg/l	algae	72 hours

Aquatic toxicity (chronic)

Test data are not available for the complete mixture.

12.2 Persistence and degradability

Biodegradation

The relevant substances of the mixture are readily biodegradable.

Persistence

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

Bioaccumulative potential of components of the mixture

Bioaccumulative potential of components of the mixture			
Name of substance	CAS No	BCF	Log KOW
Acetic acid	64-19-7	3.16	-0.17

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12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects

Data are not available.

Endocrine disrupting potential

None of the ingredients are listed.

Remarks

Water hazard class - WHC (Wassergefährdungsklasse): 1 (Slightly hazardous to water)

SECTION 13: Disposal considerations

13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.
Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1	UN number	2790
14.2	UN proper shipping name	ACETIC ACID SOLUTION
	Technical name (hazardous ingredients)	Acetic acid
14.3	Transport hazard class(es)	
	Class	8
14.4	Packing group	II
14.5	Environmental hazards	non-environmentally hazardous acc. to the dangerous goods regulations
14.6	Special precautions for user	
		Provisions for dangerous goods (ADR) should be complied within the premises.

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

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)


UN number	2790
Proper shipping name	UN2790, ACETIC ACID SOLUTION, 8, II, (E)
Class	8
Classification code	C3
Packing group	II
Danger label(s)	8
A diamond-shaped hazard pictogram with a black background and a white border. It features a white silhouette of a person being corroded by a liquid dripping from a test tube, with the number '8' in the bottom right corner.	
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
Transport category (TC)	2
Tunnel restriction code (TRC)	E
Hazard identification No	80
Emergency Action Code	2R

International Maritime Dangerous Goods Code (IMDG)

UN number	2790
Proper shipping name	UN2790, ACETIC ACID SOLUTION, 8, II
Class	8
Packing group	II
Danger label(s)	8
A diamond-shaped hazard pictogram with a black background and a white border. It features a white silhouette of a person being corroded by a liquid dripping from a test tube, with the number '8' in the bottom right corner.	
Special provisions (SP)	-
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
EmS	F-A, S-B
Stowage category	A
Segregation group	1 - Acids

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International Civil Aviation Organization (ICAO-IATA/DGR)

UN number	2790
Proper shipping name	UN2790, Acetic acid solution, 8, II
Class	8
Packing group	II
Danger label(s)	8
	
Excepted quantities (EQ)	E2
Limited quantities (LQ)	0.5 L

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

none of the ingredients are listed

List of substances subject to authorisation (REACH, Annex XIV)

none of the ingredients are listed

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

none of the ingredients are listed

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

none of the ingredients are listed

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

none of the ingredients are listed

Explosives precursors which are subject to restrictions

none of the ingredients are listed

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SECTION 16: Other information

Indication of changes (revised safety data sheet)

Indication of changes: Section 2,8

Abbreviations and acronyms

Abbreviations and acronyms	
Abbr.	Descriptions of used abbreviations
91/322/EEC	Comission Directive on establishing indicative limit values by implementing Council Directive 80/1107/EEC
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by In-land Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
BCF	BioConcentration Factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	danger
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EmS	Emergency Schedule
Eye Dam.	seriously damaging to the eye
Eye Irrit.	irritant to the eye
Flam. Liq.	flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	indicative occupational exposure limit value
log KOW	n-octanol/water
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant)
PBT	Persistent, Bioaccumulative and Toxic

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Abbreviations and acronyms	
Abbr.	Descriptions of used abbreviations
PNEC	Predicted No-Effect Concentration
ppm	parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	corrosive to skin
Skin Irrit.	irritant to skin
STEL	short-term exposure limit
TWA	time-weighted average
vPvB	very Persistent and very Bioaccumulative

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.

Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties.

Health hazards.

Environmental hazards.

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

List of relevant phrases (code and full text as stated in chapter 2 and 3)	
Code	Text
H226	flammable liquid and vapour
H290	may be corrosive to metals
H314	causes severe skin burns and eye damage
H318	causes serious eye damage

Responsible for the safety data sheet

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Disclaimer

This information is based upon the present state of our knowledge.
This SDS has been compiled and is solely intended for this product.