

# SAFETY DATA SHEET

## ACETIC ACID

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

Date issued 20.06.2013  
Revision date 09.09.2013

#### 1.1. Product identifier

Product name ACETIC ACID  
Chemical name Acetic acid  
Synonyms Glacial acetic acid  
REACH Reg No. 01-2119475328-30-0041  
CAS no. 64-19-7  
EC no. 200-580-7  
Index no. 607-002-00-6  
Formula C<sub>2</sub>H<sub>4</sub>O<sub>2</sub>

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

Relevant identified uses SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)  
SU8 Manufacture of bulk, large scale chemicals (including petroleum products)  
SU9 Manufacture of fine chemicals  
SU6 Manufacture of pulp, paper and paper products  
SU5 Manufacture of textiles, leather, fur

Uses advised against None advised against.

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

Company name Chemring Nobel AS  
Postal address Engeneveien 7  
Postcode N-3475  
City SÆTRE  
Country Norway  
Tel +47 32 27 86 00  
E-mail Richard.Gjersoe@chemringnobel.no  
Website <http://www.chemringnobel.no/>  
Contact person Richard Gjersøe

#### 1.4. Emergency telephone number

Emergency telephone NHS Direct (UK):0845 4647 (24h/24h)

### SECTION 2: Hazards identification

#### 2.1. Classification of substance or mixture

Classification according to 67/548/EEC or 1999/45/EC C; R35  
R10  
Classification according to Regulation (EC) No 1272/2008 [CLP/GHS] Flam. Liq. 3; H226;  
Skin Corr 1A; H314;  
Substance / mixture hazardous The chemical is very corrosive. The chemical is flammable.

properties

**2.2. Label elements****Hazard Pictograms (CLP)**

Composition on the label	Acetic acid ...%:98,5 - 99,8 %
Signal word	Danger
Hazard statements	H226 Flammable liquid and vapour. H314 Causes severe skin burns and eye damage.
Precautionary statements	P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking. P241 Use explosion-proof electrical/ventilating/lighting/equipment. P260 Do not breathe dust/fume/gas/mist/vapours/spray. P280 Wear protective gloves/protective clothing/eye protection/face protection. P303 + P361 + P353 IF ON SKIN (or hair): Remove/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. P501 Dispose of contents/container to approved depot.

**2.3. Other hazards**

PBT / vPvB	The mixture does not meet current criteria for PBT (Persistent, bioaccumulative and toxic) or vPvB (very persistent and very bioaccumulative).
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**SECTION 3: Composition/information on ingredients****3.1. Substances**

Substance	Identification	Classification	Contents
Acetic acid ...%	CAS no.: 64-19-7 EC no.: 200-580-7 Index no.: 607-002-00-6	R10 C; R35 Flam. Liq. 3; H226 Skin Corr. 1A; H314 Note : B	98,5 - 99,8 %
Impurities:			
Formic acid ...%	CAS no.: 64-18-6 EC no.: 200-579-1 Index no.: 607-001-00-0 Synonyms: Formic acid	C; R35 Skin Corr. 1A; H314 Note : B	0,1 - 1 %
n-Butyl acetate	CAS no.: 123-86-4 EC no.: 204-658-1 Index no.: 607-025-00-1 Synonyms: Butyl acetate	R10 R66 R67 Flam. Liq. 3; H226 STOT SE 3; H336	0,01 - 0,6 %
Column headings	CAS no. = Chemical Abstracts Service; EU (Einecs or Elincs number) = European inventory of Existing Commercial Chemical Substances; Ingredient name = Name as specified in the substance list (substances that are not included in the substance list must be translated, if possible). Contents given in; %, %wt/wt, %vol/wt, %vol/vol, mg/m3, ppb, ppm, weight%, vol%		
HH/HF/HE	T+ = Very toxic, T = Toxic, C = Corrosive, Xn = Harmful, Xi = Irritating, E = Explosive, O = Oxidizing, F+ = Extremely flammable, F = Very flammable, N = Environmental hazard		
Substance comments	See section 16 for explanation of H- and R-phrases listed above.		

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

General	Emergency telephone number: see section 1.4 In case of unconsciousness or severe accidents, call 112.
Inhalation	Fresh air and rest. Get medical attention if any discomfort continues.
Skin contact	Remove contaminated clothes and rinse skin thoroughly with water. Continue to rinse for at least 15 minutes and seek medical attention. Chemical burns must be treated by a physician.
Eye contact	Flush immediately with plenty of water. Remove contact lenses and open eyes wide apart. Continue to rinse for 30 minutes. By prolonged rinsing, use luke warm water to avoid damage to the eye. Transport to physician. Keep on flushing during transport.
Ingestion	Rinse mouth thoroughly with water and give large amounts of milk or water to people not unconscious. DO NOT INDUCE VOMITING! Get medical attention immediately!

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

Acute symptoms and effects	Contact with eyes results in lachrymation, pain, redness and risk of damage to cornea. Skin contact: Corrosive. Forms blisters and can cause ulceration. Causes burns if swallowed. Causes burning sensation in the mouth, throat and esophagus. May cause serious permanent damage.
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### 4.3. Indication of any immediate medical attention and special treatment needed

Other Information	No specific treatment required, see section 4.1.
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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	Water spray, foam, dry powder or carbon dioxide.
Improper extinguishing media	Do not use water jet.

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

Fire and explosion hazards	Flammable. Can form explosive gas-air mixtures. Vapours are heavier than air and may spread near ground to sources of ignition.
Hazardous combustion products	Can include, but are not limited to: Carbon dioxide (CO <sub>2</sub> ). Carbon monoxide (CO).

### 5.3. Advice for firefighters

Personal protective equipment	Use compressed air equipment when the chemical is involved in fire. In case of evacuation, an approved protection mask should be used. See also section 8.
Other Information	Containers close to fire should be removed immediately or cooled with water.

## SECTION 6: Accidental release measures

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

General measures	Keep away from sources of ignition - No smoking.
Personal protection measures	Use protective equipment as referred to in section 8.

### 6.2. Environmental precautions

Environmental precautionary measures	Do not allow to enter into sewer, water system or soil.
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### 6.3. Methods and material for containment and cleaning up

Cleaning method	Absorb in vermiculite, dry sand or earth and place into containers.
Containment	Collect in suitable containers and deliver as hazardous waste according to section 13.

## 6.4. Reference to other sections

Other instructions See also sections 8 and 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Handling Avoid contact with skin and eyes. Provide adequate ventilation. Use protective equipment as referred to in section 8.  
Never pour water into acid/base. Dilute by slowly pouring the product into water while stirring.

### Protective Safety Measures

Safety Measures To Prevent fire Do not use near naked flames or glowing materials. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.

Advice on general occupational hygiene Do not eat, drink or smoke during work. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash contaminated clothing before reuse.

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

Storage Store in a tightly closed container in a cool, well-ventilated room, protected from direct sunlight. Follow rules for flammable liquids.

Special risks and properties The vapours are heavier than air and will spread along the floor. The vapours may form explosive mixtures with air.

### Conditions for safe storage

Advice on storage compatibility Keep away from: Oxidizing agents. Metals. Alkalies.

### 7.3. Specific end use(s)

Specific use(s) See section 1.2.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Other Information about threshold limit values Contains no substances with occupational exposure limit values.

### 8.2. Exposure controls

Occupational exposure limits Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Provide adequate ventilation.

### Respiratory protection

Respiratory protection In case of inadequate ventilation or risk of inhalation of vapours, use suitable respiratory equipment with combination filter (type A2/P3). At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

### Hand protection

Hand protection Use suitable protective gloves if risk of skin contact.

Suitable gloves type Butyl rubber. Viton rubber (fluor rubber).

Breakthrough time > 8 hours.

### Eye / face protection

Eye protection Use face shield in case of splash risk.

### Skin protection

Skin protection (except hands) Wear appropriate clothing to prevent any possibility of skin contact.

### Appropriate environmental exposure control

Environmental exposure controls Do not allow to enter into sewer, water system or soil. See also section 12.

### Other Information

Other Information	The listed protective equipment is a recommendation. A risk assessment of the actual risk may lead to other requirements. Eye wash facilities and emergency shower should be available when handling this chemical.
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## SECTION 9: Physical and chemical properties

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

Physical state	Fluid.
Colour	Colourless.
Odour	Slightly pungent odour.
Comments, Odour limit	Not known.
pH (as supplied)	Value: < 2
pH (aqueous solution)	Value: 2,4
Comments, pH (aqueous solution)	1,0M solution.
Melting point/melting range	Value: 16,7 °C
Boiling point / boiling range	Value: 117,9 °C
Flash point	Value: 39 °C
Comments, Evaporation rate	Not known.
Flammability (solid, gas)	Not relevant.
Explosion limit	Value: 4-19 Vol%
Vapour pressure	Value: 20,79 hPa @ 25 °C
Vapour density	Value: > 1 Reference gas: Air
Specific gravity	Value: 1,05 g/cm <sup>3</sup> @ 25°C
Solubility in water	Soluble.
Partition coefficient: n-octanol/water	Value: -0.17
Spontaneous combustability	Value: 463 °C
Comments, Decomposition temperature	Not known.
Viscosity	Value: 1,056 mPas @25 °C
Explosive properties	Can form explosive gas-air mixtures.
Oxidising properties	Not oxidising.

### 9.2. Other information

#### Other physical and chemical properties

Physical and chemical properties	Molecular weight : 60.05 .
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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reactivity	No reactivity hazards.
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### 10.2. Chemical stability

Stability	The chemical is stable under normal conditions of storage and use.
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### 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	No hazardous reactions known.
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### 10.4. Conditions to avoid

Conditions to avoid	Strong heat. In contact with metals generates hydrogen gas, which together with air can form explosive mixtures.
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### 10.5. Incompatible materials

Materials to avoid	Oxidizing agents. Metals. Hydroksider.
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### 10.6. Hazardous decomposition products

Hazardous decomposition products	None under normal conditions. See also section 5.2.
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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Toxicological Information:

LD50 oral	Value: 3310 mg/kg Animal test species: Rat
LC50 inhalation	Value: > 16000 ppm Animal test species: Rat Duration: 4 timer
Other toxicological data	Skin corrosion/irritation - Extreme pH: < 2.

#### Potential acute effects

Inhalation	Vapours irritate the respiratory system, and may cause coughing and difficulties in breathing. May cause damage to mucous membranes in nose, throat, lungs and bronchial system.
Skin contact	Strongly corrosive. May cause deep tissue damage.
Eye contact	Strongly corrosive. Causes severe burns and serious eye damage. Immediate first aid is imperative.
Ingestion	Causes burns if swallowed. Causes burning sensation in the mouth, throat and esophagus. May cause serious permanent damage.
Aspiration hazard	Based on available data, the classification criteria are not met.

#### Delayed effects / repeated exposure

Sensitisation	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.

#### Carcinogenic, Mutagenic or Reprotoxic

Carcinogenicity	Based on available data, the classification criteria are not met.
Mutagenicity	Based on available data, the classification criteria are not met.
Teratogenic properties	Based on available data, the classification criteria are not met.
Reproductive toxicity	Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

### 12.1. Toxicity

Acute aquatic, fish	Value: > 300,82 mg/l Method of testing: LC50 Fish, species: Oncorhynchus mykiss Duration: 96 h
Acute aquatic, fish, Comments	Applies to acetat ion.
Acute aquatic, algae	Value: > 300,82 mg/l Method of testing: EC50 Algae, species: Skeletonema costatum Duration: 72 h
Acute aquatic, algae, Comments	(Based on growth rate.) Applies to acetat ion.
Acute aquatic, Daphnia	Value: > 300,82 mg/l Method of testing: EC50 Daphnia, species: Daphnia magna Duration: 24 h
Acute aquatic, Daphnia, Comments	(Based on mobility)
Ecotoxicity	The chemical is not classified as harmful to the environment.

### 12.2. Persistence and degradability

Persistence and degradability	The product is easily biodegradable. 96% / 20 days.
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### 12.3. Bioaccumulative potential

Bioaccumulative potential Log Pow =-0,17. Will not bio-accumulate.

## 12.4. Mobility in soil

Mobility Soluble in water.

## 12.5. Results of PBT and vPvB assessment

PBT assessment results The mixture does not meet current criteria for PBT (Persistent, bioaccumulative and toxic).

vPvB evaluation results The mixture does not meet current criteria for vPvB (very persistent and very bioaccumulative).

## 12.6. Other adverse effects

Other adverse effects / Remarks Acids cause decreased pH values in the water. A low pH value harms aquatic organisms. Do not allow to enter into sewer, water system or soil.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Specify the appropriate methods of disposal Disposed of as hazardous waste by approved contractor. The waste code (EWC-Code) is intended as a guide. The code must be chosen by the user, if the use differs from the one mentioned below.

Product classified as hazardous waste Yes

EWC waste code EWC: 07 01 04 other organicsolvents, washing liquids and mother liquors

## SECTION 14: Transport information

### 14.1. UN number

ADR 2789

RID 2789

IMDG 2789

ICAO/IATA 2789

### 14.2. UN proper shipping name

ADR ACETIC ACID, GLACIAL

RID ACETIC ACID, GLACIAL

IMDG ACETIC ACID, GLACIAL

ICAO/IATA ACETIC ACID, GLACIAL

### 14.3. Transport hazard class(es)

ADR 8 (3)

Hazard no. 83

RID 8 (3)

IMDG 8 (3)

ICAO/IATA 8 (3)

### 14.4. Packing group

ADR II

RID II

IMDG II

ICAO/IATA II

### 14.5. Environmental hazards

IMDG Marine pollutant No.

### 14.6. Special precautions for user

EmS F-E, S-C

Special safety precautions for user Not known.

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Additional information.

Additional information.	Not known.
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## SECTION 15: Regulatory information

EC no.	200-580-7
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### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

References (laws/regulations)	<p>CHIP Regulations. The Chemicals (Hazard Information and Packaging for Supply) Regulation.</p> <p>Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP-regulation) with later amendments.</p> <p>REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)</p> <p>EH40/2005 Workplace exposure limits, with later amendments.</p> <p>The Hazardous Waste (England and Wales) Regulations 2005 with amendments.</p> <p>Dangerous Goods regulations</p> <p>The Regulatory Reform (Fire Safety) Order 2005.</p>
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### 15.2. Chemical safety assessment

Chemical safety assessment performed	Yes
CSR required	Yes

## SECTION 16: Other information

Supplier's notes	The information contained in this SDS must be made available to all those who handle the product.
Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]	Flam. Liq. 3; H226; Skin Corr 1A; H314;
List of relevant R-phrases (under headings 2 and 3).	R67 Vapours may cause drowsiness and dizziness. R35 Causes severe burns. R10 Flammable. R66 Repeated exposure may cause skin dryness or cracking.
List of relevant H-phrases (Section 2 and 3).	H226 Flammable liquid and vapour. H336 May cause drowsiness or dizziness. H314 Causes severe skin burns and eye damage.
Abbreviations and acronyms used	PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative LD50: Lethal dose, is the amount of a substance given to a group of test animals, which causes the death of 50%. LC50: Concentration in water having 50% chance of causing death to aquatic life EC50: The effective concentration of substance that causes 50% of the maximum response
Important data sources used to construct the safety data sheet	Dossier from Chemring Nobel AS (CLP). Mail from manufacturer 18.06.2013.
Information which has been added, deleted or revised	Version: 2. Amendment, section: 1.
Checking quality of information	This SDS is quality controlled by National Institute of Technology in Norway, certified according to the Quality Management System requirements specified in ISO 9001:2008.
Responsible for safety data sheet	Chemring Nobel AS
Prepared by	National Institute of Technology as, Norway b/Irene S. Sortland



