Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 10.10.2014 Version number 4 Revision: 10.10.2014

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

1.1 Product identifier

Trade name: ACETONE D6 99.8 Atom%D

Article number: AE51

CAS Number:
666-52-4
EC number:
211-563-9

Registration number
A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Application of the substance / the mixture
Laboratory chemical

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:
Carl Roth GmbH + Co. KG
Schoemperlenstraße 3-5
76185 Karlsruhe
Germany
Telefon: +49/(0)721 5606-0 Telefax: +49/(0)721 5606-149 E-Mail: sicherheit@carlroth.de

Further information obtainable from: Department Health, Safety and Environment

1.4 Emergency telephone number:
Poison Centre Munich Telefon +49/(0)89 19240

*
SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Flam. Liq. 2 H225 Highly flammable liquid and vapour.
Eye Irrit. 2 H319 Causes serious eye irritation.
STOT SE 3 H336 May cause drowsiness or dizziness.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC
Xi; Irritant
R36: Irritating to eyes.

F; Highly flammable
R11: Highly flammable.

R66-67: Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

Information concerning particular hazards for human and environment:
At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.
Has a narcotising effect.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008
The substance is classified and labelled according to the CLP regulation.

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Hazard pictograms

GHS02 GHS07

Signal word Danger

Hazard statements
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary statements
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Additional information:
EUH066 Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards
All chemicals are potentially dangerous. They are therefore only be handled by specially trained personnel with the necessary care.

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

*
SECTION 3: Composition/information on ingredients

3.1 Chemical characterisation: Substances

CAS No. Description
666-52-4 (2H6)acetone

Identification number(s)
EC number: 211-563-9
Formula: C_3D_6O
Molar mass [g/mol]: 64,12

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SECTION 4: First aid measures

4.1 Description of first aid measures

General information:
Symptoms may be delayed.
Remove any clothing soiled by the product.

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After inhalation:
Take affected persons into fresh air and keep quiet.
If breathing is difficult, give oxygen. Seek medical treatment.

After skin contact:
Rinse with water
After massive or prolonged skin contact:
Seek medical treatment in case of complaints.

After eye contact:
Rinse opened eye for 10 minutes under running water. Then consult a doctor.

After swallowing:
Rinse out mouth and drink a glass of water. Do not induce vomiting.
Risk of aspiration!
Call for a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed
Irritations
Disziness
tiredness
Disziness
Headache
Unconsciousness
Nausea
Vomiting
Gastric or intestinal disorders

Hazards
Danger of impaired breathing.
Risk of corneal opacity.
Risk of aspiration

4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:
Use fire extinguishing methods suitable to surrounding conditions.
CO2, powder,foam or water spray.

For safety reasons unsuitable extinguishing agents:
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture
Can form explosive gas-air mixtures.

In the event of fire development of hazardous combustion gases or vapours possible.
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide

5.3 Advice for firefighters

Protective equipment:
In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.
Wear self-contained respiratory protective device.
Additional information
Cool endangered receptacles with water spray.

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Vapours heavier than air. Beware of reignition.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Do not inhale vapours. Avoid contact with the eyes and skin.
Keep away from ignition sources.
Ensure adequate ventilation
Wear personal protective equipment.
Evacuate the danger area, observe emergency procedures, consult an expert.

6.2 Environmental precautions
Do not allow product to reach sewage system or any water course.
Avoid penetration into drainage system because of danger of explosion.

6.3 Methods and material for containment and cleaning up
Absorb with liquid-binding material (e.g. Rotisorb® Art.-Nr. 1710.1).
Dispose of the material collected according to regulations.
Ensure adequate ventilation.

6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

*
SECTION 7: Handling and storage

7.1 Precautions for safe handling
Keep receptacles tightly sealed.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:
Store in a cool location.

Information about storage in one common storage facility:
Store away from foodstuffs.
Store away from oxidising agents.

Further information about storage conditions:
Store receptacle in a well ventilated area.
Keep ignition sources away - Do not smoke.
Protect from exposure to the light.

Recommended storage temperature:
15 - 25 °C

7.3 Specific end use(s)
No further relevant information available.

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SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities:
No further data; see item 7.

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace: Not required.

Additional information:
The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:
Do not eat, drink or smoke while working.
Avoid close or long term contact with the skin.
Use skin protection cream for skin protection.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes.

Individual protection measures
Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Respiratory protection:

Required when vapours/aerosols are generated.
Filter AX (colour code: brown)
When selecting your respiratory unit: Consider the "Rules for the use of respiratory protection equipment" (BGR190).

Protection of hands:

Protective gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves
Butylcaoutchouc, thickness: 0,7 mm
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material
Value for the permeation: Level ≥ 6
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

As protection from splashes gloves made of the following materials are suitable:
Nitrile rubber, thickness: ≥ 0.6 mm

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Value for the permeation: Level ≥ 10 min

Eye protection:

Tightly sealed goggles

Body protection:
Antistatic and flame-retardent clothing.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information	
Appearance:	
Form:	Fluid
Colour:	Colourless
Odour:	Characteristic
Odour threshold:	Not determined.
pH-value (365 g/l) at 20 °C:	5-6
Change in condition	
Melting point/Melting range:	-95.4 °C
Boiling point/Boiling range:	56.2 °C
Flash point:	< -20 °C
Flammability (solid, gaseous):	No information available
Ignition temperature:	465 °C
Decomposition temperature:	No information available
Self-igniting:	No information available
Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures is possible.
Explosion limits:	
Lower:	2.6 Vol %
Upper:	12.8 Vol %
Oxidizing properties:	No information available.
Vapour pressure at 20 °C:	233 hPa
Density at 20 °C:	0.88 g/cm³
Relative density	No Information available.
Vapour density	No information available
Evaporation rate	No information available
Solubility in / Miscibility with water:	Fully miscible.
Partition coefficient (n-octanol/water):	-0.24 log POW (exp.)
Viscosity:	
Dynamic at 20 °C:	0.32 mPas
Kinematic:	No information available.

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9.2 Other information No further relevant information available.

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SECTION 10: Stability and reactivity

10.1 Reactivity
Fumes can combine with air to form an explosive mixture.

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:
No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions
Risk of ignition or formation of inflammable gases or vapors with:
Activated charcoal
chromosulfuric acid
ethanolamine
Strong oxidizing agents
strong reducing agents
Nitric acid
chromium(VI) oxide
Danger of explosion with:
nonmetallic oxyhalides
halogen-halogen compounds
Chloroform
nitrating acid
nitrosy compounds
hydrogen peroxide
Exothermic reaction with:
Bromine
Alkali metals
Halogenated hydrocarbon
alkali hydroxides

10.4 Conditions to avoid
Heat, flammes and sparks

10.5 Incompatible materials:
various plastics
Gum

10.6 Hazardous decomposition products:
In case of fire: see item 5.
Additional information: Volatile.

*
SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity:

LD/LC50 values relevant for classification:

Oral	LD_{50}	5800 mg/kg (rat)
Dermal	LD_{50}	20000 mg/kg (rabbit)
Inhalative	LC_{50}/4 h	76 mg/l (rat)

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Primary irritant effect:

on the skin:
Repeated exposure may cause skin dryness or cracking.

on the eye:
Severe irritation.
Risk of corneal opacity.

after inhalation:
mucosal irritations
Absorption

Sensitisation:
No sensitising effects known.

CMR effects:
Germ cell mutagenicity:
No Information available.
Carcinogenicity:
Did not show carcinogenic effects in animal experiments. (IUCLID)
Reproductive toxicity:
No Information available.

Aspiration hazard:
No aspiration toxicity classification.

Specific target organ toxicity - single exposure May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Additional toxicological information:
After swallowing:
gastrointestinal complaints
Vomoting
Risk of aspiration
After absorption:
Dizziness
Headache
Nausea
Dyspnoea
Narcosis
Coma
After absorption of large quantities:
Damage of liver and kidneys.

Further information:
The product should be handled with the care usual when dealing with chemicals.

*
SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

Fish toxicity:	
LC_{50}	5540 mg/l/96 h (Onchorhynchus mykiss)

Daphnia toxicity:	
EC50	6100 mg/l/48 h (Daphnia magna)

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Algeal toxicity:	
IC5	7500 mg/l (Scenedesmus quadricauda) (IUCLID)

Bacterial toxicity:	
EC5	1700 mg/l (Pseudomonas putida) (IUCLID)

12.2 Persistence and degradability
Biodegradation: 91 % / 28 d (IUCLID)
Easily biodegradable

Other information:
Chemical Oxygen Demand; COD: 2070mg/g IUCLID
Biochemical Oxygen Demand, BOD_5: 1850 mg/g 5d
Theoretical Oxygen Demand, ThOD: 2200 mg/g

12.3 Bioaccumulative potential
Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected (log POW ≤4).

12.4 Mobility in soil
No further relevant information available.

Ecotoxical effects:

Remark:
Do not allow to enter waters, waste water, or soil!

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

12.6 Other adverse effects
No further relevant information available.

*
SECTION 13: Disposal considerations

Waste treatment methods

Recommendation
This material and its container must be disposed of as hazardous waste.
The disposal is regionally differently regulated, therefore the kind of disposal is to be inquired at the responsible authorities.

Uncleaned packaging:

Recommendation:
Disposal according to official regulations.
Recommended cleansing agents: Water, if necessary together with cleansing agents.

*
SECTION 14: Transport information

14.1 UN-Number

ADR, IMDG, IATA	UN1090

14.2 UN proper shipping name

ADR	1090 ACETONE
IMDG, IATA	ACETONE

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14.3 Transport hazard class(es)

ADR, IMDG, IATA

Class	3 Flammable liquids.
Label	3

14.4 Packing group

ADR, IMDG, IATA	II

14.5 Environmental hazards:

Marine pollutant:	No

14.6 Special precautions for user

	Warning: Flammable liquids.
Danger code (Kemler):	33
EMS Number:	F-E,S-D

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

Transport/Additional information:

ADR

Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
Transport category	2
Tunnel restriction code	D/E

IMDG

Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

UN "Model Regulation":	UN1090, ACETONE, 3, II

*
SECTION 15: Regulatory information

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

National regulations:

Information about limitation of use:
Employment restrictions concerning juveniles must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.

Breakdown regulations:

Waterhazard class:
Water hazard class 1 (Assessment by list): slightly hazardous for water.

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Other regulations, limitations and prohibitive regulations
Temperature class: T1

15.2 Chemical safety assessment
A Chemical Safety Assessment has not been carried out.

*
SECTION 16: Other information
This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS: Department: Health, Safety and Environment

Contact: Herr Heine
Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
LD50*: Lethal Dose, 50 percent (Not relevant for classification)
LD50*: Lethal Concentration, 50 percent (Not relevant for classification)
Flam. Liq. 2: Flammable liquids, Hazard Category 2
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
*** Data compared to the previous version altered.**