acc. to Safe Work Australia - Code of Practice



date of compilation: 2020-11-03

Revision: 2024-03-03

Acetone D6, 99,8 Atom%D

article number: **AE51** Version: **GHS 3.0 en** Replaces version of: 2021-05-05 Version: (GHS 2)

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

1.1 Product identifier

Identification of the substance Article number

CAS number

Acetone D6 , 99,8 Atom%D AE51

666-52-4

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

Relevant identified uses:

Uses advised against:

Laboratory chemical Laboratory and analytical use

Do not use for private purposes (household). Food, drink and animal feedingstuffs.

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co. KG Schoemperlenstr. 3-5 D-76185 Karlsruhe Germany

Telephone:+49 (0) 721 - 56 06 0 **Telefax:** +49 (0) 721 - 56 06 149 **e-mail:** sicherheit@carlroth.de **Website:** www.carlroth.de

Competent person responsible for the safety data Department Health, Safety and Environment sheet:

e-mail (competent person):

sicherheit@carlroth.de

1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 West- mead, NSW	131126	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	tion Hazard class		Hazard class and category	Hazard statement
2.6	2.6 Flammable liquid		Flam. Liq. 2	H225
3.3	3 Serious eye damage/eye irritation		Eye Irrit. 2A	H319
3.8D	Specific target organ toxicity - single exposure (narcotic effects, drowsiness)	3	STOT SE 3	H336

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Supplemental hazard information						
Code	Supplemental hazard information					
AUH066	repeated exposure may cause skin dryness or cracking					

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources.

2.2 Label elements

Labelling

Signal word Danger

Pictograms

GHS02, GHS07



Hazard statements

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

Precautionary statements

Precautionary statements - prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Precautionary statements - response

P312	Call a POISON CENTER or doctor/physician if you feel unwell
P370+P378	In case of fire: Use sand, carbon dioxide or powder extinguisher for extinction

Precautionary statements - storage

P403+P233	Store in a well-ventilated place. Keep container tightly closed
P403+P235	Store in a well-ventilated place. Keep cool

Precautionary statements - disposal

P501 Dispose of contents/container to industrial combustion plant

Supplemental hazard information

AUH066 Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\ge 0,1\%$.

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3.1

SECTION 3: Composition/information on ingredients

Substances	
Name of substance	Acetone D6
Molecular formula	C_3D_6O
Molar mass	64.12 ^g / _{mol}
CAS No	666-52-4

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off contaminated clothing.

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact

Rinse skin with water/shower.

Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Irritation, Nausea, Vomiting, Gastrointestinal complaints, Headache, Vertigo, Dizziness, Drowsiness, Narcosis

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings! water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet



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5.2 Special hazards arising from the substance or mixture

Combustible. In case of insufficient ventilation and/or in use, may form flammable/explosive vapourair mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours may form explosive mixtures with air.

Hazardous combustion products

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray. Avoidance of ignition sources.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

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

Provision of sufficient ventilation. When not in use, keep containers tightly closed.

Measures to prevent fire as well as aerosol and dust generation



Keep away from sources of ignition - No smoking.

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Take precautionary measures against static discharge. Due to danger of explosion, prevent leakage

of vapours into cellars, flues and ditches.

Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs. When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice:

Ground/bond container and receiving equipment.

Ventilation requirements

Use local and general ventilation.

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 **Control parameters**

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Cou ntr y	Name of agent	CAS No	Identi- fier	TW A [pp m]	TWA [mg/ m³]	STE L [pp m]	STEL [mg/ m³]	Ceil ing- C [pp m]	Ceil- ing-C [mg/ m³]	Nota- tion	Source
AU	acetone	67-64-1	WES	500	1,185	1,00 0	2,375				WES

Notation

TWA

Ceiling value is a limit value above which exposure should not occur Ceiling-C STEL

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

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

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Human health values					
Relevant DN	ELs and other t				
Endpoint Threshold level		Protection goal, route of exposure	Used in	Exposure time	
DNEL	DNEL 1,210 mg/m ³ human, inhalatory		worker (industry)	chronic - systemic effects	
DNEL 2,420 mg/m ³ human, inhalator		human, inhalatory	worker (industry)	acute - local effects	
DNEL	186 mg/kg bw/ day	human, dermal	worker (industry)	chronic - systemic effects	

Environmental values

Relevant	Relevant PNECs and other threshold levels							
End- point			Environmental com- partment	Exposure time				
PNEC	10.6 ^{mg} / _l	aquatic organisms	freshwater	short-term (single instance)				
PNEC	1.06 ^{mg} / _l	aquatic organisms	marine water	short-term (single instance)				
PNEC	100 ^{mg} / _l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)				
PNEC	30.4 ^{mg} / _{kg}	aquatic organisms	freshwater sediment	short-term (single instance)				
PNEC	3.04 ^{mg} / _{kg}	aquatic organisms	marine sediment	short-term (single instance)				
PNEC	29.5 ^{mg} / _{kg}	terrestrial organisms	soil	short-term (single instance)				

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection.

Skin protection



hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. 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. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a consider-able reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

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• type of material

Butyl caoutchouc (butyl rubber)

material thickness

0,7mm

breakthrough times of the glove material

>480 minutes (permeation: level 6)

other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Flame-retardant protective clothing.

Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: AX (gas filters and combined filters against low-boiling point organic compounds, colour code: Brown).

Environmental exposure controls

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Odour	characteristic
Odour threshold	200 – 400 ppm
Melting point/freezing point	-95.4 °C
Boiling point or initial boiling point and boiling range	56.2 °C at 1.013 hPa
Flammability	flammable liquid in accordance with GHS criteria
Lower and upper explosion limit	2.6 vol% (LEL) - 12.8 vol% (UEL)
Flash point	-17 °C
Auto-ignition temperature	465 °C
Decomposition temperature	not relevant
pH (value)	5 – 6 (in aqueous solution: 365 ^g / _l , 20 °C)
Kinematic viscosity	0.3636 ^{mm²} / _s at 20 °C
Dynamic viscosity	0.32 mPa s at 20 °C
Solubility(ies)	
Water solubility	miscible in any proportion

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Partition coefficient	
Partition coefficient n-octanol/water (log value):	-0.24 (exp.)
Vapour pressure	233 hPa at 20 °C
Density and/or relative density	
Density	0.88 ^g / _{cm³} at 20 °C
Relative vapour density	Information on this property is not available.
Particle characteristics	not relevant (liquid)
Other safety parameters	
Oxidising properties	none
Other information	
Information with regard to physical hazard classes:	There is no additional information.
Other safety characteristics:	
Miscibility	completely miscible with water
Refractive index	1.355

SECTION 10: Stability and reactivity

10.1 Reactivity

9.2

It's a reactive substance. Risk of ignition. Vapours may form explosive mixtures with air.

If heated

Risk of ignition.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Possibility of hazardous reactions 10.3

Risk of ignition: strong oxidiser, Reducing agents, Nitric acid, Chromium(VI) oxide, Exothermic reaction with: Alkali metals, Alkali hydroxide (caustic alkali), Bromine, Halogenated hydrocarbons,

Danger of explosion: Chloroform, Hydrogen peroxide

10.4 Conditions to avoid

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

10.5 Incompatible materials

Rubber articles, different plastics

Hazardous decomposition products 10.6

Hazardous combustion products: see section 5.

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to GHS

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity

Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	5,800 ^{mg} / _{kg}	rat		ECHA

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Causes serious eye irritation.

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.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness.

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.

Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed

vomiting, nausea, gastrointestinal complaints

• If in eyes

Causes serious eye irritation, corneal opacity

• If inhaled

irritant effects, headache, vertigo, fatigue, dizziness, narcosis

• If on skin

repeated exposure may cause skin dryness or cracking

Other information

none

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11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\ge 0,1\%$.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute)				
Endpoint	Value	Species	Source	Exposure time
LC50	5,540 ^{mg} / _l	fish	ECHA	96 h

Aquatic toxicity (chronic)

Endpoint	Value	Species	Source	Exposure time
EC50	61.15 ^g / _l	microorganisms	ECHA	30 min

12.2 Persistence and degradability

Theoretical Oxygen Demand: 1.248 ^{mg}/_{mg} Theoretical Carbon Dioxide: 2.059 ^{mg}/_{mg}

Process of degradability				
Process	Degradation rate	Time		
biotic/abiotic	91 %	28 d		
carbon dioxide generation	90.9 %	28 d		

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW)	-0.24 (Exp.)
BOD5/COD	963.54166667

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\ge 0,1\%$.

12.7 Other adverse effects

Data are not available.



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SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

Relevant provisions relating to waste(Basel Convention)

Properties of waste which render it hazardous

H3 Flammable liquids

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

SECTION 14: Transport information

14.1 UN number

17.1		
	UN RTDG	UN 1090
	IMDG-Code	UN 1090
	ICAO-TI	UN 1090
14.2	UN proper shipping name	
	UN RTDG	ACETONE
	IMDG-Code	ACETONE
	ICAO-TI	Acetone
14.3	Transport hazard class(es)	
	UN RTDG	3
	IMDG-Code	3
	ICAO-TI	3
14.4	Packing group	
	UN RTDG	II
	IMDG-Code	II
	ICAO-TI	II
14.5	Environmental hazards	non-environmentally hazar gerous goods regulations

non-environmentally hazardous acc. to the dangerous goods regulations

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14.6 Special precautions for user There is no additional information.

14.7 Transport in bulk according to IMO instruments The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Transport informationNational regulationsAdditional information(UN RTDG)				
UN number	1090			
Class	3			
Packing group	II			
Danger label(s)	3			
Special provisions (SP)	- UN RTDG			
Excepted quantities (EQ)	E2 UN RTDG			
Limited quantities (LQ)	1 L UN RTDG			
Emergency Action Code	2YE			
International Maritime Dangerous Goods Code	(IMDG) - Additional information			
Proper shipping name	ACETONE			
Particulars in the shipper's declaration	UN1090, ACETONE, 3, II, -17°C c.c.			
Marine pollutant	-			
Danger label(s)	3			
Special provisions (SP)	-			
Excepted quantities (EQ)	E2			
Limited quantities (LQ)	1 L			
EmS	F-E, S-D			
Stowage category	E			
International Civil Aviation Organization (ICAO	-IATA/DGR) - Additional information			
Proper shipping name	Acetone			
Particulars in the shipper's declaration	UN1090, Acetone, 3, II			
Danger label(s)	3			
Excepted quantities (EQ)	E2			



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Limited quantities (LQ)

1 L

SECTION 15: Regulatory information

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

There is no additional information.

Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

National	inventories
National	inventories

Country	Inventory	Status
CN	IECSC	substance is listed
EU	ECSI	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TW	TCSI	substance is listed
VN	NCI	substance is listed

Legend

ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
NCI	National Chemical Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
TCSI	Taiwan Chemical Substance Inventory
IC31	raiwan chemical substance inventory

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.1		Supplemental hazard information: change in the listing (table)	yes
2.2		Supplemental hazard information: change in the listing (table)	yes
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.	yes
14.8		Emergency Action Code: 2YE	yes
15.1		Other information: Directive 94/33/EC on the protection of young people at work. Observe employment restric- tions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.	yes



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Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
15.1		National inventories: change in the listing (table)	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Na- tions
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LEL	Lower explosion limit (LEL)
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
STEL	Short-term exposure limit
TWA	Time-weighted average
UEL	Upper explosion limit (UEL)

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Abbr.	Descriptions of used abbreviations
UN RTDG	UN Recommendations on the Transport of Dangerous Good
vPvB	Very Persistent and very Bioaccumulative
WES	Safe Work Australia: Workplace exposure standards for airborne contaminants

Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

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

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

Disclaimer

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