

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Acetylacetone solution 0.1 mol/l - 0.1 M solution in water suitable for determination of calcium

Revision: 12.08.2025

Product code: AC15.00777

Page 1 of 10

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

### 1.1. Product identifier

Acetylacetone solution 0.1 mol/l - 0.1 M solution in water suitable for determination of calcium

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

#### Use of the substance/mixture

Reagents and laboratory chemicals  
Only for laboratory and analysis purposes.

#### Uses advised against

Do not use for private purposes (household).

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

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

Company name: AnalytiChem Services, Unipessoal, Lda  
Street: Rua de Júlio Dinis 676 7º  
Place: P-4050-320 Porto  
Telephone: +351 226002917  
E-mail: info@analytichem.com  
Contact person: SDS service department  
E-mail: SDS@analytichem.com  
Internet: www.analytichem.com  
Responsible Department: SDS service department

#### Supplier or manufacturer details

Company name: AnalytiChem GmbH  
Street: Stempelstraße 6  
Place: D-47167 Duisburg  
Telephone: 0203/5194-0  
E-mail: info@analytichem.de  
Contact person: SDS service department  
E-mail: SDS@analytichem.com  
Internet: www.analytichem.de  
Responsible Department: AnalytiChem:  
EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem, Belgium, +32 50 28 83 20  
EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg, Germany, +49 203 51 94 – 200  
EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG Mijdrecht, The Netherlands, +31 297 286848  
UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester, OX26 4XB, England, +44 1869 355 500  
USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States, +1 800-244-8378  
Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X 4B6, Canada, +1 514-457-0701  
Australia: ORE Research & Exploration Pty Ltd, 37A Hosie Street, Bayswater North, 3153, Australia, +61 3 9729 0333  
+353 1 901 4670 (CHEMTREC)

Telefax: 0203/5194-290

### 1.4. Emergency telephone number:

#### Further Information

This product is a mixture. REACH Registration Number see section 3.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

**Acetylacetone solution 0.1 mol/l - 0.1 M solution in water suitable for determination of calcium**

Revision: 12.08.2025

Product code: AC15.00777

Page 2 of 10

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

This mixture is not classified as hazardous in accordance with Regulation (EC) No 1272/2008.

**2.2. Label elements****2.3. Other hazards**

No information available.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****Chemical characterization**

Mixtures in aqueous solution

**Relevant ingredients**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
123-54-6	pentane-2,4-dione			1 - < 5 %
	204-634-0	606-029-00-0	01-2119458968-15	
	Flam. Liq. 3, Acute Tox. 3, Acute Tox. 3, Acute Tox. 4; H226 H331 H311 H302			

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
123-54-6	204-634-0	pentane-2,4-dione	1 - < 5 %
		inhalation: LC50 = 1224 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: LD50 = 790 mg/kg; oral: LD50 = 760 mg/kg	

**Further Information**

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

**SECTION 4: First aid measures****4.1. Description of first aid measures****General information**

No data available

**After inhalation**

Provide fresh air. Call a doctor if you feel unwell.

**After contact with skin**

Wash immediately with: Water Take off immediately all contaminated clothing and wash it before reuse.

**After contact with eyes**

Rinse immediately carefully and thoroughly with eye-bath or water.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
In case of eye irritation consult an ophthalmologist.

**After ingestion**

Rinse mouth immediately and drink plenty of water. Call a physician immediately.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Acetylacetone solution 0.1 mol/l - 0.1 M solution in water suitable for determination of calcium**

Revision: 12.08.2025

Product code: AC15.00777

Page 3 of 10

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

No data available

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

No data available

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

**Unsuitable extinguishing media**

no restriction

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

Hazardous combustion products

**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

**Additional information**

Use water spray jet to protect personnel and to cool endangered containers. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Move undamaged containers from immediate hazard area if it can be done safely. Suppress gases/vapours/mists with water spray jet.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General advice**

No data available

**For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

Do not breathe dust/fume/gas/mist/vapours/spray.

**For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment: see section 8

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

**6.3. Methods and material for containment and cleaning up****For containment**

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

**For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

**Other information**

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

**Acetylacetone solution 0.1 mol/l - 0.1 M solution in water suitable for determination of calcium**

Revision: 12.08.2025

Product code: AC15.00777

Page 4 of 10

Disposal: see section 13

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Handle and open container with care.  
Use personal protection equipment.  
Provide adequate ventilation.  
Avoid contact with skin, eyes and clothes.  
Do not breathe vapour/aerosol.

**Advice on protection against fire and explosion**

No special fire protection measures are necessary.

**Advice on general occupational hygiene**

Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink.

**Further information on handling**

Handle and open container with care.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed.

**Hints on joint storage**

No special measures are necessary.

**Further information on storage conditions**

Store in a dry place.

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

Laboratory chemicals

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational exposure limits**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
123-54-6	2,4-Pentanedione	25	-		TWA (8 h)	

**DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
123-54-6	pentane-2,4-dione			
Worker DNEL, long-term		inhalation	systemic	84 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	12 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	7 mg/kg bw/day

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

**Acetylacetone solution 0.1 mol/l - 0.1 M solution in water suitable for determination of calcium**

Revision: 12.08.2025

Product code: AC15.00777

Page 5 of 10

**PNEC values**

CAS No	Substance	
Environmental compartment		Value
123-54-6	pentane-2,4-dione	
Freshwater		0,2 mg/l
Freshwater (intermittent releases)		0,26 mg/l
Marine water		0,02 mg/l
Freshwater sediment		1,909 mg/kg
Marine sediment		0,191 mg/kg
Micro-organisms in sewage treatment plants (STP)		1,32 mg/l
Soil		0,193 mg/kg

**8.2. Exposure controls****Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear eye protection/face protection.

**Hand protection**

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) With specification (test according to EN374):

By long-term hand contact: No data available

By short-term hand contact

Recommended glove articles: KCL 898 Butoject®

Recommended material: Butyl caoutchouc (butyl rubber) 0,7 mm

Wearing time with occasional contact (splashes): &gt; 240 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet <(>, <)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

**Skin protection**

Wear suitable protective clothing.

**Respiratory protection**

Respiratory protection necessary at: aerosol or mist formation

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**Thermal hazards**

No data available

**Environmental exposure controls**

Do not allow to enter into surface water or drains.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	Liquid
Colour:	colourless
Odour:	characteristic

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Acetylacetone solution 0.1 mol/l - 0.1 M solution in water suitable for determination of calcium

Revision: 12.08.2025

Product code: AC15.00777

Page 6 of 10

Odour threshold:	No data available	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability:		not applicable
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		X
Auto-ignition temperature:		No data available
Decomposition temperature:		No data available
pH-Value:		4,4
Viscosity / kinematic:		No data available
Water solubility:		No data available
Solubility in other solvents		
not determined		
Dissolution rate:		No data available
Partition coefficient n-octanol/water:		No data available
Dispersion stability:		No data available
Vapour pressure:		No data available
(at 50 °C)		
Vapour pressure:		No data available
Density:		0,9976 g/cm <sup>3</sup>
Relative density:		No data available
Bulk density:		No data available
Relative vapour density:		No data available
Particle characteristics:		No data available

#### 9.2. Other information

##### Information with regard to physical hazard classes

Explosive properties	
No data available	
Sustained combustibility:	No data available
Self-ignition temperature	
Solid:	not applicable
Gas:	not applicable
Oxidizing properties	
Not oxidising.	

##### Other safety characteristics

Evaporation rate:	No data available
Solvent separation test:	No data available
Solvent content:	No data available
Solid content:	0%
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
No data available:	
Viscosity / dynamic:	No data available
Flow time:	No data available

##### Further Information

No data available

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

**Acetylacetone solution 0.1 mol/l - 0.1 M solution in water suitable for determination of calcium**

Revision: 12.08.2025

Product code: AC15.00777

Page 7 of 10

**SECTION 10: Stability and reactivity****10.1. Reactivity**

No hazardous reaction when handled and stored according to provisions.

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

No known hazardous reactions.

**10.4. Conditions to avoid**

none

**10.5. Incompatible materials**

No data available No data available

**10.6. Hazardous decomposition products**

No known hazardous decomposition products.

**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Toxicokinetics, metabolism and distribution**

There are no data available on the mixture itself.

**Acute toxicity**

Based on available data, the classification criteria are not met.

**ATEmix calculated**

ATE (oral) &gt; 5000 mg/kg; ATE (dermal) &gt; 5000 mg/kg; ATE (inhalation vapour) &gt; 50 mg/l; ATE (inhalation dust/mist) &gt; 12,5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
123-54-6	pentane-2,4-dione				
	oral	LD50 760 mg/kg	Rat	Drug and Chemical Toxicology, 9, 133-146	other: as stated in report
	dermal	LD50 790 mg/kg	Rabbit	Drug and Chemical Toxicology, 9, 133-146	other: as reported in test report
	inhalation (4 h) vapour	LC50 1224 mg/l	Rat	Study report (1984)	OECD Guideline 403
	inhalation dust/mist	ATE 0,5 mg/l			

**Irritation and corrosivity**

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**Acetylacetone solution 0.1 mol/l - 0.1 M solution in water suitable for determination of calcium**

Revision: 12.08.2025

Product code: AC15.00777

Page 8 of 10

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Information on likely routes of exposure**

There are no data available on the mixture itself.

**Specific effects in experiment on an animal**

There are no data available on the mixture itself.

**Additional information on tests**

There are no data available on the mixture itself.

**Practical experience**

There are no data available on the mixture itself.

**11.2. Information on other hazards****Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**Other information**

There are no data available on the mixture itself.

**Further information**

There are no data available on the mixture itself.

**SECTION 12: Ecological information****12.1. Toxicity**

Based on available data, the classification criteria are not met.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
123-54-6	pentane-2,4-dione					
	Acute fish toxicity	LC50 104 mg/l	96 h	Pimephales promelas	Center of Lake Superior Environmental St	OECD Guideline 203
	Acute algae toxicity	ErC50 83,22 mg/l	72 h	Pseudokirchneriella subcapitata	Study report (2010)	OECD Guideline 201
	Acute crustacea toxicity	EC50 75 mg/l	48 h	Daphnia magna	Environ. Toxicol. Chem. 5, 393-398. (198	other: ASTM Standard D4229-84 of 1984
	Fish toxicity	NOEC 10 mg/l	34 d	Pimephales promelas	Study report (2012)	OECD Guideline 210
	Crustacea toxicity	NOEC 18 mg/l	21 d	Daphnia magna	Study report (2012)	OECD Guideline 211
	Acute bacteria toxicity	EC50 107,6 mg/l ( )	3 h	activated sludge of a predominantly domestic sewage	Study report (2010)	OECD Guideline 209

**12.2. Persistence and degradability**

The product has not been tested.

**12.3. Bioaccumulative potential**

The product has not been tested.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

**Acetylacetone solution 0.1 mol/l - 0.1 M solution in water suitable for determination of calcium**

Revision: 12.08.2025

Product code: AC15.00777

Page 9 of 10

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
123-54-6	pentane-2,4-dione	0,68

**BCF**

CAS No	Chemical name	BCF	Species	Source
123-54-6	pentane-2,4-dione	3,16		Calculation (2000)

**12.4. Mobility in soil**

The product has not been tested.

**12.5. Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

**12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**12.7. Other adverse effects**

Avoid release to the environment.

**Further information**

Do not allow to enter into surface water or drains.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

**Contaminated packaging**

Wash with plenty of water. Completely emptied packages can be recycled.

**SECTION 14: Transport information****Land transport (ADR/RID)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**Inland waterways transport (ADN)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**Marine transport (IMDG)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**Air transport (ICAO-TI/IATA-DGR)****14.1. UN number or ID number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**14.5. Environmental hazards**

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Acetylacetone solution 0.1 mol/l - 0.1 M solution in water suitable for determination of calcium**

Revision: 12.08.2025

Product code: AC15.00777

Page 10 of 10

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

No information available.

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 40

**National regulatory information**

Water hazard class (D): - - non-hazardous to water

**15.2. Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 1,6,7,8,9,11,14,15.

**Abbreviations and acronyms**

Flam. Liq. 3: Flammable liquids, hazard category 3

Acute Tox. 3: Acute toxicity, hazard category 3

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 Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

**Relevant H and EUH statements (number and full text)**

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H331 Toxic if inhaled.

**Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

*(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*