

## SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

### ACETYLACETON

Creation date	12. September 2019	Version	1.0
Revision date			

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

- 1.1. Product identifier**  
 Substance / mixture: ACETYLACETON  
 Chemical name: substance  
 Acetylacetone  
 CAS number: 123-54-6  
 Index number: 606-029-00-0  
 EC (EINECS) number: 204-634-0  
 Registration number: 01-2119458968-15-xxxx  
 Other substance name: 2,4-Pentanedione, Pentan-2,4-dione
- 1.2. Relevant identified uses of the substance or mixture and uses advised against**  
 Substance's intended use: Chemical production, analytical chemistry, laboratory synthesis, industrial applications.  
 Substance uses advised against: The product should not be used in ways other than those referred in Section 1.  
 Chemical safety report
- 1.3. Details of the supplier of the safety data sheet**  
**Supplier**  
 Name or trade name: Ing. Petr Švec - PENTA s.r.o.  
 Address: Radiová 1122/1, Praha 10, 102 00  
 Czech Republic  
 Identification number (CRN): 02096013  
 VAT Reg No: CZ02096013  
 Phone: +420 226 060 681  
 E-mail: info@pentachemicals.eu  
 Web address: www.pentachemicals.eu
- Competent person responsible for the safety data sheet**  
 Name: Ing. Petr Švec - PENTA s.r.o.  
 E-mail: info@pentachemicals.eu
- 1.4. Emergency telephone number**  
 National Health Service (NHS) 111  
 National poisoning information centre Scotland, NHS 24: 111

#### SECTION 2: Hazards identification

- 2.1. Classification of the substance or mixture**  
**Classification of the substance in accordance with Regulation (EC) No 1272/2008**  
 The substance is classified as dangerous.
- Flam. Liq. 3, H226  
 Acute Tox. 4, H302  
 Acute Tox. 3, H311+H331
- Full text of all classifications and hazard statements is given in the section 16.
- Most serious adverse physico-chemical effects**  
 Flammable liquid and vapour.
- Most serious adverse effects on human health and the environment**  
 Harmful if swallowed. Toxic in contact with skin or if inhaled.

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#### 2.2. Label elements

##### Hazard pictogram



##### Signal word

Danger

##### Dangerous substance

Acetylacetone (Index: 606-029-00-0; CAS: 123-54-6)

##### Hazard statements

H226 Flammable liquid and vapour.  
H302 Harmful if swallowed.  
H311+H331 Toxic in contact with skin or if inhaled.

##### Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P261 Avoid breathing par, aerosolů..  
P280 Wear protective gloves.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P311 Call a POISON CENTER.

#### 2.3. Other hazards

Substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

##### Chemical characterization

The substance specified below.

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note.
Index: 606-029-00-0 CAS: 123-54-6 EC: 204-634-0 Registration number: 01-2119458968-15-xxxx	<b>substance main component</b> Acetylacetone	>98	Flam. Liq. 3, H226 Acute Tox. 4, H302 Acute Tox. 3, H311+H331	

Full text of all classifications and hazard statements is given in the section 16.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that airways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

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#### **If inhaled**

Take care of your own safety, do not let the affected person walk! Terminate the exposure immediately; move the affected person to fresh air. Beware of the contaminated clothes. Depending on the situation, call the medical rescue service and ensure medical treatment considering the frequent need of further observation for at least 24 hours.

#### **If on skin**

Remove contaminated clothes. Take off any rings, watches, bracelets before or during washing if worn in the contaminated areas of the skin. Depending on the situation, call the medical rescue service and always ensure medical treatment. Rinse contaminated areas with a flow of water, lukewarm at best, for 10-30 minutes; do not use any brush, soap or neutralizers. Rinse skin with water/shower.

#### **If in eyes**

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. No neutralization should be performed in any case! Rinsing should be continued for 10-30 minutes from the inner to the outer eye corner to make sure that the other eye is not involved. Depending on the situation, call medical rescue service or ensure medical treatment as promptly as possible. Everyone must be referred for treatment even if affected only a little.

#### **If swallowed**

INDUCE VOMITING! Vomiting should be induced in the person only if conscious, within 1 hour from ingestion. If in doubt whether vomiting should be induced, contact the Toxicological Information Centre and give information about the substances or composition of the product as provided on the original packaging or in the safety data sheet of the product. FOLLOWING INGESTION OF TOXIC OR HIGHLY TOXIC SUBSTANCES, GIVE 10-20 CRUSHED TABLETS OF ACTIVATED CARBON, MIXED IN WATER, WITHIN NO LATER THAN 5 MINUTES - irrespective of whether vomiting could be induced. Call medical rescue service.

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

##### **If inhaled**

Not expected.

##### **If on skin**

not available

##### **If in eyes**

Not expected.

##### **If swallowed**

Irritation, nausea.

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

Symptomatic treatment.

### **SECTION 5: Firefighting measures**

#### **5.1. Extinguishing media**

##### **Suitable extinguishing media**

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

##### **Unsuitable extinguishing media**

Water - full jet.

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

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

#### **5.3. Advice for firefighters**

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Use a self-contained breathing apparatus and full-body protective clothing. Closed containers with the product near the fire should be cooled with water. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

### **SECTION 6: Accidental release measures**

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

Provide sufficient ventilation. The substance is flammable. Remove all ignition sources. Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Do not inhale aerosols. Prevent contact with skin and eyes.

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#### 6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water.

#### 6.3. Methods and material for containment and cleaning up

Spilled product should be covered with suitable (non-flammable) absorbing material (sand, diatomaceous earth, earth and other suitable absorption materials); to be contained in well closed containers and removed as per the Section 13. In the event of leakage of the substantial amount of the product, inform fire brigade and other competent bodies. After removal of the product, wash the contaminated site with plenty of water. Do not use solvents.

#### 6.4. Reference to other sections

See the Section 7, 8 and 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Prevent formation of gases and vapours in flammable or explosive concentrations. The product should be used only in the areas where it is not in contact with open fire and other ignition sources. Use non-sparking tools. Use of antistatic clothes and footwear is recommended. Do not inhale aerosols. Prevent contact with skin and eyes. No smoking. Use only non-sparking tools. Do not eat, drink or smoke when using this product. Wash hands and exposed parts of the body thoroughly after handling. Use only outdoors or in a well-ventilated area. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge.

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

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose. Do not expose to sunlight. Store locked up. Keep container tightly closed. Keep cool.

#### The specific requirements or rules relating to the substance/mixture

Solvent vapours are heavier than air and accumulate especially near the floor where they may form an explosive mixture with the air.

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

not available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

none

#### DNEL

Acetylacetone

Workers / consumers	Route of exposure	Value	Effect	Determining method
Workers	Inhalation	84 mg/m <sup>3</sup>	Systemic chronic effects	
Workers	Dermal	12 mg/kg bw/day	Systemic chronic effects	
Consumers	Oral	7 mg/kg bw/day	Systemic chronic effects	

#### PNEC

Acetylacetone

Route of exposure	Value	Determining method
Drinking water	0.2 mg/l	
Seawater	0.02 mg/l	
Sea sediments	0.191 mg/kg	
Freshwater sediment	1.909 mg/kg	
Soil (agricultural)	0.193 mg/kg	

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Acetylacetone

Route of exposure	Value	Determining method
Microorganisms in wastewater treatment plants	1.32 mg/l	

#### 8.2. Exposure controls

Follow the usual measures intended for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

##### Eye/face protection

It is not needed.

##### Skin protection

Hand protection: Protective gloves resistant to the product. Contaminated skin should be washed thoroughly.

##### Respiratory protection

Use insulating breathing apparatus when the exposition limits of the substances are exceeded or at the place with insufficient ventilation.

##### Thermal hazard

Not available.

##### Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

### SECTION 9: Physical and chemical properties

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

Appearance	
Physical state	liquid at 20°C
color	colourless
Odour	acid
Odour threshold	data not available
pH	6 (200 g/l% solution at 20 °C)
Melting point/freezing point	-23 °C
Initial boiling point and boiling range	140 °C
Flash point	38 °C
Evaporation rate	data not available
Flammability (solid, gas)	Flammable liquid and vapour.
Upper/lower flammability or explosive limits	
flammability limits	data not available
explosive limits	
bottom	1.7 %
upper	11.4 %
Vapour pressure	data not available
Vapour density	data not available
Relative density	data not available
Solubility(ies)	
solubility in water	data not available
solubility in fats	data not available
Partition coefficient: n-octanol/water	0.4
Auto-ignition temperature	data not available
Decomposition temperature	data not available
Viscosity	data not available
Explosive properties	data not available
Oxidising properties	It is not oxidising.

#### 9.2. Other information

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		ignition temperature	350 °C

#### SECTION 10: Stability and reactivity

##### 10.1. Reactivity

The substance is flammable.

##### 10.2. Chemical stability

The product is stable under normal conditions.

##### 10.3. Possibility of hazardous reactions

Unknown.

##### 10.4. Conditions to avoid

The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

##### 10.5. Incompatible materials

Protect against strong acids, bases and oxidizing agents.

##### 10.6. Hazardous decomposition products

Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide are formed at high temperature and in fire.

#### SECTION 11: Toxicological information

##### 11.1. Information on toxicological effects

No toxicological data is available for the substance.

##### Acute toxicity

Harmful if swallowed. Toxic in contact with skin or if inhaled.

Acetylacetone

Route of exposure	Parameter	Value	Time of exposure	Species	Sex
Oral	LD50	575 mg/kg		Rat (Rattus norvegicus)	
Dermal	LD50	790 mg/kg		Rabbit	
Inhalation (vapor)	LC50	5.1 mg/l	4 hour	Rat (Rattus norvegicus)	

##### Irritation

Acetylacetone

Route of exposure	Result	Time of exposure	Species
Skin	Slightly irritating		
Eye	Slightly irritating		

##### Skin corrosion/irritation

Based on available data the classification criteria are not met.

##### Serious eye damage/irritation

Based on available data the classification criteria are not met.

##### Respiratory or skin sensitisation

Based on available data the classification criteria are not met.

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#### 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.

#### Toxicity for specific target organ - single exposure

Based on available data the classification criteria are not met.

#### Toxicity for specific target organ - repeated exposure

Based on available data the classification criteria are not met.

#### Aspiration hazard

Based on available data the classification criteria are not met.

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Acute toxicity

Based on available data the classification criteria are not met.

Acetylacetone

Parameter	Value	Time of exposure	Species	Environment
LC50	72 mg/l	96 hour	Fishes (Oncorhynchus mykiss)	
EC50	75 mg/l	48 hour	Daphnia (Daphnia magna)	

### 12.2. Persistence and degradability

#### Biodegradability

Acetylacetone

Parameter	Value	Time of exposure	Environment	Result
	79-88 %	28 day		Biodegradable

Data not available.

### 12.3. Bioaccumulative potential

Acetylacetone

Parameter	Value	Time of exposure	Species	Environment	Surrounding temperature [°C]
Log Pow	<1				

Not available.

### 12.4. Mobility in soil

Not available.

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

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

#### 12.6. Other adverse effects

Not available.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

#### Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

### SECTION 14: Transport information

#### 14.1. UN number

UN 2310

#### 14.2. UN proper shipping name

PENTANE-2,4-DIONE

#### 14.3. Transport hazard class(es)

3 Flammable liquids

#### 14.4. Packing group

III - substances presenting low danger

#### 14.5. Environmental hazards

not available

#### 14.6. Special precautions for user

not available

#### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not available

#### Additional information

Hazard identification No.

UN number

Classification code

Safety signs

**36** (Kemler Code)  
**2310**

FT1

3+6.1



#### Air transport - ICAO/IATA

Packaging instructions passenger 355

Cargo packaging instructions 366

#### Marine transport - IMDG

EmS (emergency plan) F-E, S-D



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#### SECTION 15: Regulatory information

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

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16th December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006, as amended.

##### 15.2. Chemical safety assessment

not available

#### SECTION 16: Other information

##### A list of standard risk phrases used in the safety data sheet

H226 Flammable liquid and vapour.  
H302 Harmful if swallowed.  
H311+H331 Toxic in contact with skin or if inhaled.

##### Guidelines for safe handling used in the safety data sheet

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P261 Avoid breathing par, aerosol..  
P280 Wear protective gloves.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P311 Call a POISON CENTER.

##### Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

##### Key to abbreviations and acronyms used in the safety data sheet

ADR	European agreement concerning the international carriage of dangerous goods by road
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
DNEL	Derived no-effect level
EC	Identification code for each substance listed in EINECS
EC50	Concentration of a substance when it is affected 50% of the population
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
EU	European Union
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
IC50	Concentration causing 50% blockade
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC50	Lethal concentration of a substance in which it can be expected death of 50% of the population
LD50	Lethal dose of a substance in which it can be expected death of 50% of the population
LOAEC	Lowest observed adverse effect concentration

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LOAEL	Lowest observed adverse effect level
log Kow	Octanol-water partition coefficient
MARPOL	International Convention for the Prevention of Pollution From Ships
NOAEC	No observed adverse effect concentration
NOAEL	No observed adverse effect level
NOEC	No observed effect concentration
NOEL	No observed effect level
OEL	Occupational Exposure Limits
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted no-effect concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very Persistent and very Bioaccumulative

Acute Tox.	Acute toxicity
Flam. Liq.	Flammable liquid

#### Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

#### Recommended restrictions of use

not available

#### Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. First aid principles after the exposure to the chemicals (Zásady pro poskytování první pomoci při expozici chemickým látkám, doc. MUDr. Daniela Pelclová, CSc., MUDr. Alexandr Fuchs, CSc., MUDr. Miroslava Hornyčová, CSc., MUDr. Zdeňka Trávníčková, CSc., Jiřina Fridrichovská, prom. chem.). Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

#### More information

Classification procedure - calculation method.

#### Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.