

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH) and Regulation (EU) No 2015/830



## Solvent DEK/DEM 1:1 (Vol.- %), MOS

Revision date: 24/2/2016

Version: 4

Language: en-GB,IE

Date of print: 24/2/2016

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

#### 1.1 Product identifier

Trade name: Solvent DEK/DEM 1:1 (Vol.- %), MOS

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

General use: Intermediate for electronic industry

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

Company name: Allresist  
Gesellschaft für chemische Produkte zur Mikrostrukturierung mbH  
Street/POB-No.: Am Biotop 14  
Postal Code, city: 15344 Strausberg  
Germany  
WWW: [www.allresist.de](http://www.allresist.de)  
E-mail: [info@allresist.de](mailto:info@allresist.de)  
Telephone: +49 (0)33 41-35 93-0  
Telefax: +49 (0)33 41-35 93-29  
Dept. responsible for information:  
Frau Feldt, Email: [doerte.feldt@allresist.de](mailto:doerte.feldt@allresist.de)

#### 1.4 Emergency telephone number

Telephone: +49 (0)33 41-35 93-0  
Only available during office hours.

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification according to EC regulation 1272/2008 (CLP)

Flam. Liq. 2; H225 Highly flammable liquid and vapour.  
Eye Irrit. 2; H319 Causes serious eye irritation.  
STOT SE 3; H335, H336 May cause respiratory irritation. May cause drowsiness or dizziness.  
(EUH066) Repeated exposure may cause skin dryness or cracking.

#### 2.2 Label elements

##### Labelling (CLP)



Signal word: **Danger**

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Hazard statements:	H225	Highly flammable liquid and vapour.
	H319	Causes serious eye irritation.
	H335	May cause respiratory irritation.
	H336	May cause drowsiness or dizziness.
	EUH066	Repeated exposure may cause skin dryness or cracking.
Precautionary statements:		
	P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	P243	Take precautionary measures against static discharge.
	P261	Avoid breathing vapours.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
	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+P235	Store in a well-ventilated place. Keep cool.

### Special labelling

Text for labelling: Contains Pentan-3-one.

### 2.3 Other hazards

Vapours can form explosive mixtures with air.

## SECTION 3: Composition / information on ingredients

3.1 Substances: not applicable

### 3.2 Mixtures

Hazardous ingredients:

Ingredient	Designation	Content	Classification
REACH 01-2119531111-60-xxxx EC No. 202-490-3 CAS 96-22-0	Pentan-3-one	50 %	CLP: Flam. Liq. 2; H225. Eye Irrit. 2; H319. STOT SE 3; H335, H336. (EUH066).

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Additional information: Mixture of solvents of Pentan-3-one and Diethylmalonat.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

In case of inhalation: Provide fresh air. Seek medical attention.

Following skin contact: Change contaminated clothing. Remove residues with soap and water. In case of skin irritation, consult a physician.

After eye contact: With eyelids open, wash out eyes for several minutes under flowing water. Subsequently consult an ophthalmologist.

After swallowing: Rinse mouth immediately and drink plenty of water. Consult physician.

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

In case of inhalation:

Mucous membrane irritation, cough, shortage of breath, Nausea, vomiting, headache, drowsiness, fatigue, narcosis.

In case of ingestion: May be harmful if swallowed.

After contact with skin:

Prolonged/repetitive skin contact may cause skin defatting or dermatitis.

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

Treat symptomatically. Decontamination.

In the event of pulmonary irritation treat initially with dexamethasone - dosing aerosol.

Subsequent observance for pneumonia and lung oedema.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

Suitable extinguishing media:

Extinguishing powder, water fog or carbon dioxide.

In case of large fires alcohol resistant foam or water fog.

Extinguishing media which must not be used for safety reasons:

High power water jet

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

Highly flammable. Vapours are heavier than air and will spread at floor level.

Explosive mixtures with air may even form at room temperature.

In case of fire may be liberated: Carbon monoxide and carbon dioxide.

#### 5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information: Hazchem-Code: •3YE

Cool endangered containers with water spray and, if possible, remove from danger zone. Do not allow fire water to penetrate into surface or ground water.

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### SECTION 6: Accidental release measures

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

Remove all sources of ignition. Provide adequate ventilation.  
Avoid contact with the substance. Wear suitable protective clothing. Do not breathe vapours.

#### 6.2 Environmental precautions

Do not allow to penetrate into soil, waterbodies or drains. Danger of explosion!  
If necessary notify appropriate authorities.

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

Take up with non-flammable, liquid binding material (e.g. sand/earth/diatomaceous earth/vermiculit) and perform disposal according to instructions. Wash spill area with plenty of water.  
In case of spills of large quantities: Dam spills.

#### 6.4 Reference to other sections

Refer additionally to section 8 and 13.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed.

Do not breathe vapours. Avoid contact with skin, eyes, and clothing.

Precautions against fire and explosion:

Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharges. Use grounding equipment. Use only spark proof tools. Do not weld.  
Vapours can form explosive mixtures with air.

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

Requirements for storerooms and containers:

Keep container tightly closed in a cool, well-ventilated place.  
Keep away from sources of ignition and heat. Protect from direct sunlight.  
Storage temperature: 10 °C up to 18 °C.

Hints on joint storage: Do not store together with combustible or self-igniting materials or any highly flammable solids.

Storage class: 3 = Flammable liquids

#### 7.3 Specific end use(s)

No information available.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
96-22-0	Pentan-3-one	Great Britain: WEL-STEL	895 mg/m <sup>3</sup> ; 250 ppm
		Great Britain: WEL-TWA	716 mg/m <sup>3</sup> ; 200 ppm
		Ireland: 15 minutes	875 mg/m <sup>3</sup> ; 250 ppm
		Ireland: 8 hours	700 mg/m <sup>3</sup> ; 200 ppm

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DNEL/DMEL: Information about Pentan-3-one:  
Systemic effects:  
DNEL workers, long-term, inhalative: 708 mg/m<sup>3</sup>  
DNEL workers, long-term, dermal: 101 mg/kg bw/d  
Local effects:  
DNEL workers, long-term, inhalative: 705 mg/m<sup>3</sup>  
DNEL workers, short-term, inhalative: 1057 mg/m<sup>3</sup>

PNEC: Information about Pentan-3-one:  
PNEC water (freshwater): 0,5 mg/L  
PNEC water (marine water): 0,05 mg/L  
PNEC water (intermittent release): 5 mg/L  
PNEC sewage treatment plant: 6287 mg/L  
PNEC sediment (freshwater): 2,17 mg/kg dw  
PNEC floor: 0,207 mg/kg dw

### 8.2 Exposure controls

When aerosols and vapours form: Withdraw by suction.

### Personal protection equipment

#### Occupational exposure controls

Respiratory protection: If vapours form, use respiratory protection.  
Use filter type A (= against vapours of organic substances) according to EN 14387.

Hand protection: Protective gloves according to EN 374  
Glove material: butyl caoutchouc (butyl rubber)-Layer thickness: 0,7 mm.  
Breakthrough time: >480 min.  
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Tightly sealed goggles according to EN 166.

Body protection: Wear suitable protective clothing.  
In case of handling larger quantities: Flame-resistant antistatic protective clothing

General protection and hygiene measures:  
Change contaminated clothing.  
Wash hands before breaks and after work.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance: Form: liquid  
Colour: colourless

Odour: like ketone

Odour threshold: no data available

pH value: no data available

Melting point/freezing point: no data available

Initial boiling point and boiling range: 101 - 199 °C

Flash point/flash point range: 18 °C (c.c.)

Evaporation rate: no data available

Flammability: no data available

Explosion limits: LEL (Lower Explosion Limit): 0.80 Vol-% (Diethylmalonat)  
UEL (Upper Explosive Limit): 12.80 Vol-% (Diethylmalonat)

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Vapour pressure:	at 20 °C: 34.45 hPa (Pentan-3-one) at 40 °C: 1.3 hPa (Diethylmalonat)
Vapour density:	no data available
Density:	at 20 °C: 0.932 g/mL
Water solubility:	partially soluble
Partition coefficient: n-octanol/water:	0.85 log P(o/w) (Pentan-3-one) Bio-accumulation is not to be expected (log P(o/w) <1).
Auto-ignition temperature:	no data available
Thermal decomposition:	no data available
Viscosity, dynamic:	no data available
Explosive properties:	no data available
Oxidizing characteristics:	no data available

### 9.2 Other information

Ignition temperature: > 400 °C

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Highly flammable.

### 10.2 Chemical stability

Vapours can form explosive mixtures with air.

### 10.3 Possibility of hazardous reactions

Violent reaction with strong oxidizing agents.

### 10.4 Conditions to avoid

Keep away from heat. Protect from direct sunlight.

### 10.5 Incompatible materials

no data available

### 10.6 Hazardous decomposition products

In case of fire may be liberated: Carbon monoxide and carbon dioxide.

Thermal decomposition: no data available

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity:

LD50 Rat, oral (Pentan-3-one): 2900 mg/kg

LD50 Rabbit, dermal (Pentan-3-one): 16200 mg/kg

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Toxicological effects:

- Acute toxicity (oral): Lack of data.
- Acute toxicity (dermal): Lack of data.
- Acute toxicity (inhalative): Lack of data.
- Skin corrosion/irritation: Lack of data.
- Eye damage/irritation: Eye Irrit. 2; H319 = Causes serious eye irritation.
- Sensitisation to the respiratory tract: Lack of data.
- Skin sensitisation: Lack of data.
- Germ cell mutagenicity/Genotoxicity: Lack of data.
- Information about Diethylmalonat:
- Bacterial mutagenicity: Salmonella typhimurium negative (source: IUCLID).
- Carcinogenicity: Lack of data.
- Reproductive toxicity: Lack of data.
- Effects on or via lactation: Lack of data.
- Specific target organ toxicity (single exposure): STOT SE 3; H335, H336 = May cause respiratory irritation. May cause drowsiness or dizziness.
- Specific target organ toxicity (repeated exposure): Lack of data.
- Aspiration hazard: Lack of data.

### Symptoms

In case of inhalation:  
Mucous membrane irritation, cough, shortage of breath, Nausea, vomiting, headache, drowsiness, fatigue, narcosis.  
In case of ingestion: May be harmful if swallowed.  
After contact with skin:  
Prolonged/repetitive skin contact may cause skin defatting or dermatitis.

## SECTION 12: Ecological information

### 12.1 Toxicity

Aquatic toxicity: Information about Pentan-3-one:  
Algae toxicity:  
IC50 algae: >500 mg/L/72h  
Daphnia toxicity:  
EC50 Daphnia magna: >500 mg/L/48h  
Fish toxicity:  
LC50 Pimephales promelas: 1530 mg/L/96h

### 12.2. Persistence and degradability

Further details: no data available

Oxygen demand:

BSB: (Pentan-3-one) 1310 mg/g/5d

CSB: (Pentan-3-one) 2246 mg/g

### 12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water:

0.85 log P(o/w) (Pentan-3-one)

Bio-accumulation is not to be expected (log P(o/w) <1).

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### 12.4 Mobility in soil

no data available

### 12.5 Results of PBT and vPvB assessment

no data available

### 12.6 Other adverse effects

General information: Do not allow to enter into ground-water, surface water or drains.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Waste key number: 16 03 05\* = organic wastes containing dangerous substances  
\* = Evidence for disposal must be provided.

Recommendation: Incinerate as hazardous waste according to applicable local, state, and federal regulations.

#### Contaminated packaging

Recommendation: Dispose of waste according to applicable legislation. Handle contaminated packages in the same way as the substance itself. Non-contaminated packages may be recycled.

## SECTION 14: Transport information

### 14.1 UN number

ADR/RID, IMDG, IATA: UN 1156

### 14.2 UN proper shipping name

ADR/RID, IMDG, IATA: UN 1156, Diethylketone solution

### 14.3 Transport hazard class(es)

ADR/RID: Class 3, Code: F1

IMDG: Class 3, Subrisk -

IATA: Class 3

### 14.4 Packing group

ADR/RID, IMDG, IATA: II

### 14.5 Environmental hazards

Marine pollutant: No



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### 14.6 Special precautions for user

#### Land transport (ADR/RID)

Warning board: ADR/RID: Kemmler-number 33, UN number 1993  
Hazard label: 3  
Special provisions: 274 601 640D  
Limited quantities: 1 L  
EQ: E2  
Contaminated packaging - Instructions: P001 - IBC02 - R001  
Special provisions for packing together: MP19  
Portable tanks - Instructions: T7  
Portable tanks - Special provisions: TP1 TP8 TP28  
Tank coding: LGBF  
Tunnel restriction code: D/E

#### Sea transport (IMDG)

EmS: F-E, S-E  
Special provisions: 274  
Limited quantities: 1 L  
EQ: E2  
Contaminated packaging - Instructions: P001  
Contaminated packaging - Provisions: -  
IBC - Instructions: IBC02  
IBC - Provisions: -  
Tank instructions - IMO: -  
Tank instructions - UN: T7  
Tank instructions - Provisions: TP1, TP8, TP28  
Stowage and handling: Category B.  
Properties and observations: -

#### Air transport (IATA)

Hazard: Flammable liquid  
EQ: E2  
Passenger Ltd.Qty.: Pack.Instr. Y341 - Max. Net Qty/Pkg. 1 L  
Passenger: Pack.Instr. 353 - Max. Net Qty/Pkg. 5 L  
Cargo: Pack.Instr. 364 - Max. Net Qty/Pkg. 60 L  
Special Provisioning: A3  
ERG: 3H

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

no data available

## SECTION 15: Regulatory information

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

#### National regulations - Great Britain

Hazchem-Code: •3YE

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### National regulations - EC member states

#### Labelling of packaging with <= 125mL content



Signal word:

**Danger**

Hazard statements:

H335

May cause respiratory irritation.

H336

May cause drowsiness or dizziness.

EUH066

Repeated exposure may cause skin dryness or cracking.

Precautionary statements:

P261

Avoid breathing vapours.

P304+P340

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

### 15.2 Chemical Safety Assessment

For this mixture a chemical safety assessment is not required.

## SECTION 16: Other information

### Further information

Wording of the H-phrases under paragraph 2 and 3:

H225 = Highly flammable liquid and vapour.

H319 = Causes serious eye irritation.

H335 = May cause respiratory irritation.

H336 = May cause drowsiness or dizziness.

EUH066 = Repeated exposure may cause skin dryness or cracking.

Reason of change:

General revision (Regulation (EU) Nr. 2015/830)

Date of first version:

16/6/2011

### Department issuing data sheet

Contact person:

see section 1: Dept. responsible for information

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.