

# SAFETY DATA SHEET

## Kovacs' Reagent

### Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

**1.1 Product Identification**

Kovacs' Reagent

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

In vitro laboratory use

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

Rosco Diagnostica A/S  
Taastrupgaardsvej 30  
DK-2630 Taastrup  
Denmark  
Tel: (+45) 43 99 33 77  
Fax: (+45) 43 52 73 74  
[info@rosco.dk](mailto:info@rosco.dk)

**1.4 Emergency telephone number**

(+45) 43 99 33 77

### Section 2: Hazards Identification

**2.1 Classification of the substance or mixture**


This mixture is a flammable liquid and vapour, causes serious eye damage, is harmful if inhaled, causes skin irritation and may cause respiratory irritation.

Flam. Liq. 3. Acute Tox. 4.

Causes damage to organs through prolonged or repeated exposure.

**2.2 Label elements**

Classification according to Regulation (EC) No 1272/2008.

Pictogram	 <p>GHS02: Highly Flammable GHS07: Harmful</p>
Signal Word	Warning
Hazard statement(s)	H226 - H315 - H318 - H332 - H335 – EUH066
Precautionary statement(s)	P210 - P261 - P280 - P305 - P351 - P338

Hazard statement(s)

H226	Flammable liquid and vapour.
H332	Harmful if inhaled.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
EUH066	Repeated exposure may cause skin dryness or cracking.

# SAFETY DATA SHEET

Precautionary statement(s)

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305 - P351 - P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

The classification is based on data regarding the individual substances, where possible by bridging principles or adjusted minimum classification.

### 2.3 Other hazards

May cause drowsiness or dizziness.

## Section 3: Composition/Information on Ingredients

**Contains:** Classification of individual substances.

% w/w	Substance Name	CAS-no.	EINECS/ELINCS	Hazard class and category code(s)	Hazard statement(s)
5,0	p-dimethyl-aminobenzaldehyde	100-10-7	202-819-0	Acute Tox. 4 Skin Irrit. 2 Eye Irrit. 2	H302 H315 H319
9,3	Hydrochloric acid %	7647-01-0	231-595-7	Eye Irrit. 2 Skin Irrit. 2; 10 % ≤ C < 25 % STOT SE 3; C ≥ 10 %	H319 H315 H335
75	Pentanol Isomers (isoamyl alcohol)	123-51-3	204-633-5	Flam. Liq. 3 Skin Irrit. 2 Eye Dam. 1 Acute Tox. 4 STOT SE 3 (inhalation, resp.)	H226 H315 H318 H332 H335 EUH066

Wording of hazards statements - see section 16.

## Section 4: First-Aid Measures

### 4.1 Description of first aid measures

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, seek medical advice.
Skin contact	Remove contaminated clothing. Wash skin with water and mild soap. If irritation persists, seek medical attention.
Eye contact	Flush with water or physiological salt water for at least 15 minutes, holding eye lids open, remember to remove contact lenses, if any. If irritation persists, seek medical

# SAFETY DATA SHEET

attention.

Ingestion	Rinse mouth and drink plenty of water. In case of discomfort, seek medical attention immediately.
Burns	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Immediate rinse skin with water/shower. Do not remove clothing burnt onto skin. Seek medical attention.

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

Irritation of eyes, skin, nose, throat. Headache, dizziness; cough, dyspnea (breathing difficulty), nausea, vomiting, diarrhea. The liquid defats the skin.  
Prolonged inhalation of vapours may result in inflammation of the nose and gastrointestinal tract, corrosion of teeth and damage of liver, kidneys, blood and central nervous system.

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

Show this Safety Data Sheet to a physician or emergency ward.

**Section 5: Fire-Fighting Measures**

**5.1 Extinguishing media**

Powder, alcohol-resistant foam, water in large amounts, carbon dioxide or water fog. For fires involving liquids, do not aim the jet straight into the liquid, it can spread the fire.

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

Do not breathe smoke fumes. In case of fire, the products may form hazardous decomposition such as oxides of carbon.

**5.3 Advice for fire-fighters**

When entering burning area wear self-contained breathing apparatus.  
Use water spray to cool fire-exposed containers. Product not miscible with water.

**5.4 Other information**

No available data.

**Section 6: Accidental Release Measures**

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

Use personal protective equipment – see section 8. Avoid breathing, vapours, fume, mists. Ventilate area of leak or spillage. In case of fire: Evacuate area. Remove sources of ignition.

**6.2 Environmental precautions**

Do not empty into drain – see section 12. Inform appropriate authorities in accordance with local regulations.

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

Collect leaking and spilled liquid in sealable containers as far as possible. Wash away remainder with plenty of water. Further handling of spillage – see section 13.

**6.4 Reference to other sections**

See above

**Section 7: Handling and Storage**

**7.1 Precautions for safe handling**

Avoid breathing vapours. Provide efficient ventilation. Avoid contact with skin, eyes and clothing. Change contaminated clothes. Wash hands and contaminated area with water and mild soap after use. There shall be access to water and eye wash fountain.

# SAFETY DATA SHEET

## 7.2 Conditions for safe storage, including any incompatibilities

Store in a well-closed original container and in a flammable liquid storage area.  
Keep dry and cool (2-8 C°) and separated from oxidizing agents.  
Keep out from the reach of children.

## 7.3 Specific end use(s)

Use in laboratory. See section 1.

## Section 8: Exposure Controls/Personal Protection

### 8.1 Control parameters

Substance	8-hour TWA	15-min STEL
3-methylbutan-1-ol (isoamyl alcohol):	100 ppm=366 mg/m <sup>3</sup>	125 ppm=458 mg/m <sup>3</sup>
Hydrogen chloride (gas and aerosol mists):	1 ppm= 2 mg/m <sup>3</sup>	5 ppm = 8 mg/m <sup>3</sup>

### 8.2 Exposure controls

#### Appropriate measures:

Appropriate engineering controls: Provide efficient ventilation e.g. by working in a fume cupboard. General practice of industrial hygiene.

#### Personal Protective Equipment

##### Respiratory protection:

Normally not necessary if working in fume cupboard. In case of working in not adequate ventilated areas, use an approved mask with a gas filter: A. The filter has a limited lifetime and must be changed. Read the instructions.

##### Skin protection:

Wear protective gloves of e.g. butyl rubber or nitrile rubber. Breakthrough time: 3 hours.

##### Eye protection:

Wear tight fitting safety goggles when risk of eye contact.

##### Environmental exposure controls:

None particular.

## 9: Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	Clear, yellow liquid
b) Odour:	Alcohol
c) Odour threshold	No available data
d) pH	No available data
e) Melting point/freezing point (C°)	No available data
f) Initial boiling point and boiling range(C°)	No available data
g) Flash point	42.7
h) Evaporation rate (water = 1)	No available data
i) Flammability (solid, gas)	No available data
j) Upper/lower flammability or explosive limit (vol-%)	No available data
k) Vapour pressure (mmHg, 20°C)	No available data
l) Vapour density (Water=1)	No available data
m) Relative density (Water=1)	<1
n) Water solubility:	Miscible w/ water
o) Partition coefficient: n-octanol/water	No available data
p) Auto-ignition temperature(C°)	No available data
q) Decomposition temperature	No available data
r) Viscosity	Not relevant
s) Explosive properties	Not relevant
t) Oxidising properties	Not relevant

# SAFETY DATA SHEET

## 9.2 Other information

None relevant

## 10: Stability and Reactivity

### 10.1 Reactivity

No specific test data related to reactivity available for this product.

### 10.2 Chemical Stability

Stable under the recommended storage conditions (see section 7).

### 10.3 Possibility of hazardous reactions

Vapours can be ignited by a spark, a hot surface or a glow. Vapours are heavier than air.

### 10.4 Conditions to avoid

Formation of sparks and glows. Excessive heating and sources of ignition.

### 10.5 Incompatible materials

May react strongly with oxidizing agents, acids and alkaline substances.

### 10.6 Hazardous decomposition products

When heated to high temperatures (decomposition) it emits toxic fumes such as oxides of carbon.

## 11: Toxicological Information

### 11.1 Information on toxicological effects acute toxicity

Hazard class	Data: Isoamyl alcohol	Test	Reference
<b>Acute toxicity</b>			(RTECS)
Inhalation	Inhalation/Human; lowest published toxic concentration: 150 ppm.	No info	JIHTAB 25,282,1943
Dermal	Subcutaneous/mouse; lowest published lethal dose: 7480 mg/kg	No info	FCTXAV 16,785,1978
Oral	Oral/rat; lethal dose (50 percent kill): 1300 mg/kg	No info	SAMJAF 43,795,1969
<b>Corrosion/Irritation</b>	Skin /rabbit; dose: 20 mg/24H; Effect: moderate.	No info	85JCAE - ,196,1986

Information on likely routes of exposure: lungs, skin and gastrointestinal tract.

Symptoms:

Inhalation	Vapours may cause irritation to the airways. May induce discomfort, nausea, dizziness, headache, narcosis and unconsciousness.
Skin	May cause irritation with redness. Degreases skin.
Eyes	May cause irritation with redness, pain and blurred vision.
Ingestion	May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Burning sensation. Headache. Confusion. Dizziness. Unconsciousness.
Chronic effect	Prolonged or frequent exposure to vapours of volatile compounds may result in damage of liver, kidneys, blood and central nervous system.

### Respiratory or skin sensitisation

No available data

# SAFETY DATA SHEET

**Germ cell mutagenicity**

No available data

**Carcinogenicity**

No proven carcinogenic effect in humans.

**Reproductive toxicity**

No available data

**STOT-single exposure**

No available data

**STOT-repeated exposure**

No available data

**Aspiration hazard**

Possible aspiration hazard if swallowed (can enter lungs and cause damage).

**Additional information**

Prolonged or frequent contact or inhalation can cause eczema and inflammation of the skin and airways.

## 12: Ecological Information

**12.1 Toxicity**

Isoamylalcohol is slightly toxic in the aquatic environment.

Toxicity to fathead minnow (LC50 in mg/l) as predicted by Topkat v6.1 (OECD): 570.3.

**12.2 Persistence and degradability**

Isoamylalcohol is readily biodegradable.

**12.3 Bioaccumulative potential**

Isoamylalcohol is not expected to bioaccumulate.

**12.4 Mobility in soil**

Practically insoluble in water and mobility in the aquatic systems is expected to be limited.

**12.5 Results of PBT and vPvB assessment**

Ingredients are not considered PBT/vPvB according to criteria in Annex XIII.

**12.6 Other adverse effects**

None known

## 13: Disposal Considerations

**13.1 Waste treatment measures**

Disposal should be according to local, state or national legislation. Dispose through authority facilities or pass to chemical disposal company.

EWC Code: 16 05 08

## 14: Transport Information

Not dangerous goods (ADR/RID).

**14.1 UN number**

1105

**14.2 UN proper shipping name**

## SAFETY DATA SHEET

ADR/RID: Pentanols  
IMDG: Pentanols  
IATA: Pentanols

### 14.3 Transport hazard class(es)

3

### 14.4 Packing group

III

### 14.5 Environmental hazards

None

### 14.6 Special precautions for user

No special precautions required.

### 14.7 Transport for bulk according to Annex II of MARPOL and the IBC Code

Not relevant.

## 15: Regulatory Information

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

This safety data sheet complies with the requirements of Regulation (EU) 1907/2006, amended by 2015/830/EU.

Must not be used by persons under 18 years of age.

The employer shall assess the working conditions and, if there is any risk to the safety or health and any effects on the pregnancy or breastfeeding of workers, take the necessary measures to adjust the working conditions (Directive 92/85/EEC).

### 15.2 Chemical Safety Assessment

A Chemical Safety Assessment (CSA) is not required.

## 16: Other Information

### CLP Label elements (1272/2008):

Content: Isoamyl alcohol, Pentanol Isomers



GHS02: Highly Flammable; GHS07: Harmful

### Hazard statements mentioned in section 2 & 3:

H226: Flammable liquid and vapour.

H302: Harmful if swallowed.

H315: Causes skin irritation.

H318: Causes serious eye damage.

H332: Harmful if inhaled.

H335: May cause respiratory irritation.

EUH066: Repeated exposure may cause skin dryness or cracking.

### Precautionary statement(s)

P233: Keep container tightly closed.

## SAFETY DATA SHEET

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P210: Keep away from heat/sparks/open flames/hot surfaces. – No smoking.  
 P261: Avoid breathing fume/gas/mist/vapours/spray.  
 P270: Do not eat, drink or smoke when using this product.  
 P280: Wear protective gloves/protective clothing/eye protection/face protection.  
 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.

### Abbreviations:

CMR = Carcinogenicitet, mutagenicitet og reproduktionstoksicitet  
 CSR = Chemical Safety Report  
 EC<sub>50</sub> = Effect Concentration 50 %  
 DNEL = Derived No-Effect Level  
 FW = Fresh Water  
 LC<sub>50</sub> = Lethal Concentration 50 %  
 LD<sub>50</sub> = Lethal Dose 50 %  
 PBT = Persistent, Bioaccumulative, Toxic  
 PNEC = Predicted No-Effect Concentration  
 TD<sub>Lo</sub> = Toxic Dose Low  
 vPvB = very Persistent, very Bioaccumulative

### Training Advice

No special training required. However, the user should be well instructed in the execution of the task, be familiar with this Safety Data Sheet and have normal training in the use of personal protective equipment.

### Additional information

The information provided on this Safety Data Sheet is correct to the best of our knowledge. The information given is intended only as a guide for safe handling, storage, processing, transport and disposal and is not to be considered as a warranty or quality specification. The information relates only to the specific product and cannot be used in combination with other products unless specified.