

SOUTHERN GROUP LABORATORY LIMITED

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name: Kovačs Reagent

SGL Product code 0658

Supplier: Southern Group Laboratory,
Cavendish Courtyard, Swallow Road,
Weldon North Industrial Estate,
Corby, Northants.
NN17 5JX.

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2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification

Physical hazards Flam Liquid 3 – H226

Health hazards Acute Tox 4 – H332 Skin Irrit. 2 – H315 STOT SE 3 – H335

Environmental hazards not classified

Classification (67/548/EEC Or 1999/45EC) Xn; R20. Xi; R37/38. R10

2.2 Label elements

Pictogram



Signal word Warning

Hazard statements H226 Flammable liquid and vapour.
H315 Causes skin irritation
H332 Harmful if inhaled.
H335 May cause respiratory irritation.

Precautionary statements

P210 Keep away from heat, hot surfaces sparks, open flames and other ignition sources. No smoking.
P280 Wear protective clothing, gloves, eye and face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing rinse skin with water/shower.
P332+P313 if on skin irritation occurs: Get medical advice/attention.
P312 Call a POISON CENTER/doctor if you feel unwell.

P501 Dispose of contents/container in accordance with national regulations.

Contains 1-pentanol, hydrochloric acid

Supplementary precautionary statements

- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical equipment
- P242 Use only non-sparking tools
- P243 Take precautionary measures against static discharges
- P261 Avoid breathing vapour/spray
- P264 Wash contaminated skin thoroughly after handling.
- P271 Use only outdoors or in well-ventilated area.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P370+P378 In case of fire: use foam, carbon dioxide, dry powder or water fog to extinguish.
- P403+P235 Store in well ventilated place. Keep cool.
- P405 Store locked up

2.3 Other hazards

This product does not contain any substances classified as PBT or vPvB

3.	COMPOSITION/INFORMATION ON INGREDIENTS
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3.1 Hazardous ingredients classification according to regulation (EC) No.1272/2008 [CLP]

Name	EC No.	CAS-No.	Content	Classification
Amyl Alcohol (1-Pentanol; Pentan-1-ol; Pentyl Alcohol)	200-752-1	71-41-0	75%	Flam. Liq 3 – H226 Acute Tox. 4 – H332 Skin irrit 2- H315 STOT SE 3 _H335 Classification (67/548/EEC or 1999/45/EC Xn; R20. Xi; R37/38. R10
Hydrochloric acid	231-595-7	7647-01-0	25%	Skin Corr. 1B – H314 Eye damage.1 – H318 STOT SE 3 – H335 Classification (67/548/EEC or 1999/45/EC C; R32. Xi;R37
4-(Dimethylamino) benzaldehyde	202-819-0	100-10-7	5%	Not hazardous

The full Text for R-Phrases and hazard statements are displayed in section 16

4.	FIRST-AID MEASURES
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4.1 General information

Keep affected person away from heat, sparks and flames.

Inhalation: Immediate first aid is imperative. Loosen tight clothing such as collar, tie or belt. Maintain an open airway. Move affected person to fresh air at once. Place unconscious person on their side in recovery position. And ensure breathing can take place. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen.

Ingestion: Rinse mouth thoroughly with water. Do not induce vomiting unless under the direction of medical personnel. If in doubt, get medical attention promptly.

Skin contact: Rinse cautiously with water for several minutes. Remove contaminated clothing. Wash contaminated clothing before reuse.

Eye contact: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse immediately with plenty of water. Get medical attention if symptoms are severe or persist after washing.

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

Inhalation: Symptoms following overexposure may include the following: Coughing, chest tightness, feeling of chest pressure. Drowsiness, disorientation, vertigo. May cause discomfort.

Ingestion: May cause discomfort if swallowed.

Skin contact: Causes skin irritation. Dryness and/or cracking. Prolonged or repeated exposure may cause severe irritation.

Eye contact: May cause temporary eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Note for doctor

The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

5.	FIRE-FIGHTING MEASURES
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5.1 Extinguishing media

Suitable extinguishing media

Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

Extinguishing media which must not be used for safety reasons.

Do not use water jet as an extinguisher, as this will spread fire.

5.2 Advice for firefighter

Protective actions during firefighting.

Fight fire from safe distance or protective location. Use water spray to reduce vapours. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak.

5.3 Special hazards arising from the substance or mixture

Flammable liquid or vapour. Vapours may be ignited by a spark

5.4 Special protective equipment for firefighters.

Use air-supplied respirator, gloves and protective goggles. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate clothing. Use protective equipment appropriate for surrounding materials.

6.] ACCIDENTAL RELEASE MEASURES.

6.1 personal precautions, protective equipment and emergency procedures

Follow precautions for safe handling described in this safety data sheet. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation.

6.2 environmental precautions

Avoid the spillage or runoff entering drains, sewers or watercourses.

6.3 Methods and material for containment and cleaning up.

Take care as floors and other surfaces may become slippery. Contain spillage with sand, earth or other suitable non-combustible material. Absorb in vermiculite, dry sand or earth and place into containers. Dispose of waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

6.4 Additional information

Clear spills immediately.

7. | HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid breathing vapours. Avoid contact with eyes and prolonged skin contact. Avoid the formulation of mists. Ground/bond container and receiving equipment.

Advice on general occupational hygiene

Do not eat, drink or smoke when using this product. Eye wash facilities and emergency shower must be available when handling this product. Good personal hygiene procedures should be implemented. Take off contaminated clothing and wash it before reuse. Wash promptly with soap and water if skin becomes contaminated.

7.2 Conditions for safe storage, including any incompatibilities

Storage temperature: Keep at temperature not exceeding 20°C

Storage class: Flammable liquid storage.

8. | EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure controls

Occupational exposure limits

Hydrochloric acid

Long-term exposure limit (8-hour TWA): WEL 1ppm 2 mg/m³ gas and aerosol mists

Short-term exposure limit (15-minute): WEL 5ppm 8mg/m³ gas and aerosol mists.

8.2 Exposure controls

Appropriate engineering controls

Avoid inhalation of vapours and spray/mists. Good general ventilation should be adequate to control worker exposure to airborne contaminants. In case of insufficient ventilation, wear suitable respiratory equipment.

Eye face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. Frequent changes are recommended. The breakthrough time for any material may be different for different glove manufacturers.

Other skin and body protection

Wear anti-static protective clothing if there is a risk of ignition from static electricity.

Hygiene measures

Do not eat, drink or smoke when using this product. Eye wash facilities and emergency shower must be available when handling this product. Good personal hygiene procedures should be implemented.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. Seek advice from supervisor on the company's respiratory protection standards. Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible.

9.	PHYSICAL AND CHEMICAL PROPERTIES
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9.1 information on basic physical and chemical properties

(a) Appearance

Physical state:

Liquid

Colour:

Green/Brown

(b) Odour:

characteristic

(c) Odour threshold

no data available

(d) pH

not relevant

(e) Melting point

not relevant

(f) Initial boiling point and range

not determined

(g) Flash point

23-60°C

(h) Evaporation rate

not determined

(i) Flammability (solid, gas)

not determined

(j) Upper/lower flammability

not determined

Or explosive limits

(k) Vapour pressure

not determined

(l) Vapour density

not relevant

(m) Relative density

not determined

(n) Solubility

Soluble in water

(o) Partition coefficient

not determined

(p) Auto-ignition temperature

not determined

(q) Decomposition Temperature

not determined

(r) Viscosity

not determined

(s) Explosive properties

not considered to be explosive

(t) Oxidising properties

does not meet the criteria for classification as oxidising.

9.2 Other information

None

10.	STABILITY AND REACTIVITY
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10.1 Reactivity

No data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature)

10.3 Possibility of hazardous reactions

Acids. Alkalis. Oxidising agents.

10.4 Conditions to avoid

Avoid heat, flames and other sources of ignition.

10.5 Incompatible materials

Acids Alkalis. Oxidising agents

10.6 Hazardous decomposition products

Thermal decomposition or combustion products may include the following substances:
Carbon dioxide (CO₂). Carbon monoxide (CO). Nitrous gasses (NO_x). Hydrocarbons. Does not decompose when used and stored as recommended.

10.7 Additional information

No data available

11.	TOXICOLOGICAL INFORMATION
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11.1 information on toxicological effects**Acute effects****Acute oral toxicity**

Notes (oral LD ₅₀)	Based on available data the classification criteria are not met.
ATE oral (mg/kg)	6,006.00600601

Acute dermal toxicity:

Notes (dermal LD ₅₀)	Based on available data the classification criteria are not met.
ATE dermal (mg/kg)	6,006.00600601

Acute inhalation toxicity

Notes (inhalation LC ₅₀)	Acute tox. 4 – H332 Harmful if inhaled
ATE inhalation (gasses ppm)	14,014.01401401
ATE inhalation (vapours mg/1)	15.71428571

Irritant and corrosive effects**Primary irritation to the skin**

Animal data	Based on available data the classification criteria are not met.
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Irritation to eyes:

Serious eye damage/irritation	Eye irrit. 2 –H319 causes serious eye irritation
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Respiratory or skin sensitisation

Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity – in vitro	Based on available data the classification criteria are not met.
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Carcinogenicity

Based on available data the classification criteria are not met.

Reproductive toxicity

Fertility	Based on available data the classification criteria are not met.
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STOT-single exposure

irritation

STOT SE 2 – H371 STOT SE 3 _ H335 May cause respiratory

STOT-repeated exposure

Based on available data the classification criteria are not met.

Aspiration hazard

chemical structure.

Not anticipated to present an aspiration hazard, based on

Toxicological information on ingredients**1-Pentanol****Acute toxicity oral (LD₅₀mg/kg)**

3,645.0

Species

Rat

Notes (oral LD₅₀)

REACH dossier information. Based on available data the classification criteria are not met.

ATE oral (mg/kg)

3,645.0

Acute toxicity – dermalLD₅₀ 2,292.0**Species**

Rabbit

Notes (dermal LD₅₀)

REACH dossier information. Based on available data the classification criteria are not met.

Acute toxicity – inhalation**Notes (inhalation LC₅₀)**

Converted acute toxicity point estimate (cATpE) harmful if inhaled.

ATE inhalation (vapours mg/1)**Skin corrosion/irritation****Animal data**

Dose: 0.5mL, 15 minutes, Rabbit Erythema/eschar score: Well defined erythema (2). Oedema score: No oedema (0) REACH dossier information. Irritating.

Skin sensitisation

Guinea pig maximization test (GPMT) – Guinea pig: Not Sensitising. REACH dossier information. Based on Available data the classification criteria are not met.

Germ cell mutagenicity**Genotoxicity – in vitro**

Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Genotoxicity – in Vivo

Chromosome aberration: Negative. REACH dossier Information. Read across data. Based on available Data the classification are not met.

Specific target organ toxicity – single exposure

STOT – single exposure STOT SE 3 – H335 May cause respiratory irritation.

Hydrochloric acid**Skin corrosion/irritation****Animal data**

Dose: 0.5 ml (37%), ¼ hours, Rabbit REACH dossier Information. Skin corr. 1B – H314 Causes severe skin burns and eye damage.

Serious eye damage/irritation

Dose: 0.1ml (10%), 1 second, Rabbit REACH dossier Information. Eye Dam. 1 – H318 Causes serious eye Damage

Skin sensitisation

Guinea pig maximization test (GPMT) – Guinea pig: Not sensitising. REACH dossier information.

Carcinogenicity

NOAEL < 10ppm, inhalation, Rat REACH dossier Information. No evidence of carcinogenicity in animal Studies.

IARC carcinogenicity

IARC Group 3 Not classable as to its carcinogenicity to humans.

Specific target organ toxicity – single exposure

STOT – Single exposure STOT SE 3 – H335 May cause respiratory irritation.

Specific target organ toxicity – repeated exposure

STOT – repeated exposure NOAEL 20 ppm, Inhalation, Rat REACH dossier Information.

Acute toxicity**4- Dimethylamino**

LD50 Oral – Rat > 6,400mg/kg

LD50 Oral – Mouse – 800mg/kg

Remarks: Behavioural: general anaesthetic. Behavioural: Somnolence (general depressed activity)

Behavioural: Ataxia

LD50 Intraperitoneal – rat – 620 mg/kg

LD50 Intraperitoneal – mouse- 200mg/kg

Remarks: Behavioural: general anaesthetic. Behavioural: Somnolence (general depressed activity)

Behavioural: Ataxia

Skin corrosion/irritation

Skin – rabbit

Result: No skin irritation

Serious eye damage/eye irritation

eyes – rabbit

Result: No eye irritation

Respiratory or skin sensitization

No data available

Germ cell mutagenicity	No data available
Carcinogenicity	No component of the product present at levels greater Than or equal to 0.1% is identified as probable, possible Or confirmed human carcinogen by IARC.
Reproductive toxicity	No data available
Specific target organ toxicity- Single exposure	No data available
Specific target organ toxicity – Repeated exposure	No data available
Aspiration hazard	No data available
Additional information	No data available

12.	ECOLOGICAL INFORMATION
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12.1 Toxicity

Based on available data the classification criteria are not Met. However, large or frequent spills may have Hazardous effects on the environment.

Ecological information on ingredients.

1-Pentanol

Acute toxicity – fish

LC₀, 96 hours: 400 mg/l, Brachydanio reio (zebra fish)
 LC₅₀, 96 hours: 530 mg/l, Brachydanio reio (Zebra fish)
 LC₁₀₀< 96 hours: 600 mg/, Brachydanio reio (Zebra fish)
 REACH dossier information.

Acute toxicity – aquatic invertebrates

LC₀, 48 hours: 250 mg/l, Daphnia manga
 LC₅₀, 48 hours: 341.21 mg/l, Daphnia manga
 LC₁₀₀ 48 hours: 500 mg/, Daphnia manga
 REACH dossier information.

Acute toxicity – Aquatic plants

EC₅, 8 days: 260 mg/l, Scenedesmus quadricauda
 REACH dossier information

Acute toxicity – microorganisms

EC₁₀, 180 minutes: 370 mg/l, Activated sludge
 EC₂₀, 180 minutes: 810 mg/l, Activated sludge
 EC₅₀ 180 minutes :> 1000 mg/, Activated sludge
 REACH dossier information.
 Read across data.

Hydrochloric acid

Acute toxicity – fish

LC₅₀ 96 hours: PH 3.25 – 3.5, Lepomis macrochirus (Bluegill)
REACH dossier information

Acute toxicity - aquatic invertebrates

NOEC 48 hours: pH 5.5, Daphnia magna
EC₅₀, 48 hours: pH 4.92, Daphnia magna
REACH dossier information.

Acute toxicity aquatic plants

EC₅₀, 72 hours: pH 4.7, Chlorella vulgaris
REACH dossier information

Acute toxicity microorganisms

EC₅₀, 3 hours: pH 5 – 5.5, Activated sludge
REACH dossier information.

12.2 Persistence and degradability

There are no data on the degradability of the product.
Volatile substances are degraded in the atmosphere
Within a few days.

Ecological information on ingredients

1 – Pentanol

Biodegradation

Water – Degradation (100%): 18 days
Read across data
REACH dossier information.
The substance is readily biodegradable

Bioaccumulative potential

Bioaccumulative potential

not determined

Partition coefficient

not determined

12.4 Mobility in soil

The product contains solvents which will evaporate easily
From all surfaces. The product contains substances which
Are water-soluble and may spread in water systems.

Ecological information on ingredients

1-Pentanol

Adsorption/desorption coefficient - Koc: 6.33 @ 25°C – KOC: 0.8 @ 25°C QSAR model
REACH dossier information.

Henry's law constant 1.34 Pa m³/mol @ 25°C QSAR model REACH dossier Information

12.5 Results of PBT and vPvB assessment

This product does not contain any substance classified As PBT or vPvB

12.6 Other adverse effects

Not relevant

4-Dimethylaminobenzaldehyde

12.7 Toxicity

Toxicity to fish

- Pimephales promelas (fathead minnow) – 45.7 mg/l – 96h

12.8 Persistence and degradability

Biodegradability

Result: - Partly biodegradable.

12.9 Bioaccumulative potential

No data available

12.10 Mobility in soil

No data available

12.11 Results of PBT and PvB assessment

PBT/vPvB assessment not available as chemical Safety assessment not required/not conducted

12.12 Other adverse effects

No data available

13.	DISPOSAL CONSIDERATIONS
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13.1 Waste treatment methods

General information

Reuse or recycle products wherever possible. Dispose of Surplus products and those that cannot be recycled via a Licensed waste disposal contractor. Residues and empty Containers should be taken care of as hazardous waste According to local and national provisions.

Disposal methods

Absorb in vermiculite, dry sand or earth and place in Containers. Place waste in labelled, sealed containers. Dispose of contents/container in accordance with National regulations.

14.	TRANSPORT INFORMATION
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14.1 UN number

UN No. (ADR/RID)	1993
UN NO. (IMDG)	1993
UN No. (ICAO)	1993
UN No. (AND)	1993

14.2 UN Proper shipping name

Proper shipping name (ADR/RID)	FLAMMABLE LIQUID N.O.S. (1Pentanol)
Proper shipping name (IMDG)	FLAMMABLE LIQUID N.O.S. (1Pentanol)
Proper shipping name (ICAO)	FLAMMABLE LIQUID N.O.S. (1Pentanol)
Proper shipping name (ADN)	FLAMMABLE LIQUID N.O.S. (1Pentanol)

14.3 Transport hazard class (es)

ADR/RID class	3
ADR/RID classification code	F1
ADR/RID label	3
IMDG class	3
ICAO class/division	3
ADN class	3

14.4 Packing group

ADR/RID packing group	III
IMDG packing group	III
ADN packing group	III
ICAO packing group	III

14.5 Environmental hazards

Environmentally hazardous/marine pollutant
No

14.6 Special precautions for user

EmS	F-E, S-E
ADR transport category	3
Emergency action code	.3Y
Hazard identification number (ADR/RID)	30
Tunnel restriction code	(DE)

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC code

Not relevant

15.	REGULATORY INFORMATION
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15.1 Safety, health and environmental regulations/legislation specific for the substance or Mixture

National regulations	The chemicals (Hazard information and packaging for supply) Regulations 2009 (SI 2009 No. 716) EH40/2005 Workplace exposure limits.
EU legislation	Council Directive of 20 May 1975 on the approximation of the Laws of the member states relating to aerosol dispensers (75/324/EEC) Regulation (EC) No 1272/2008 of the European Parliament And of the council of 16 December 2008 on classification, Labelling and packaging of substances and mixtures (as amended). Regulation (EC) No 1907/2006 of the European Parliament and Of the council of 18December concerning the registration, Evaluation, Authorisation and restriction of chemicals (REACH) (as amended)

15.2 Chemical safety assessment

No chemical safety assessment has been carried out.

16.	OTHER INFORMATION
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Classification procedures according to Regulation (EC) 1272/2008

Flam.Liq 3 – H226
Acute Tox. 4 – H332
Skin irrit.2 – H315
STOT SE 3 – H336

Risk phrases in full

R10 Flammable
R20 Harmful by inhalation
R34 Causes burns
R37 Irritating to respiratory system
R37/38 Irritating to respiratory system and skin.

Hazard statements in full

H226 Flammable liquid and vapour.
H314 causes severe skin burns and eye damage.
H315 Causes skin irritation
H318 Causes serious eye damage
H332 Harmful if inhaled
H335 May cause respiratory irritation

Issue Date: 12.04.2016

Issue Number: 02