Safety Data Sheet KOVAC'S REAGENT

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SECTION 1: Identification

GHS Product identifier

Product name	KOVAC'S REAGENT

Other means of identification

Product	Product Code
KOVAC'S REAGENT	621
KOVAC'S REAGENT	KOVC

Recommended use of the chemical and restrictions on use

Used in hospital and pathology laboratories only.

Supplier's details

Name	ChemSupply Australia Pty Ltd
Address	38-50 Bedford Street 5013 Gillman South Australia Australia
Telephone	08 8440 2000
email	www.chemsupply.com.au

National contact

Name	Australian Biostain Pty Ltd
Address	16 Shipwright Road 5016 Largs North SA Australia

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Dangerous goods of Class 3 (Flammable Liquid) are incompatible in a placard load with any of the following:
Class 1, Class 2.1, if both the Class 3 and Class 2.1 dangerous goods are in bulk, Class 2.3, Class 4.2, Class 5, Class 6, if the Class 3 dangerous goods are nitromethane, Class 7.

Classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Acute toxicity, inhalation, Cat. 4
- Serious eye damage/eye irritation, Cat. 1
- Skin corrosion/irritation, Cat. 1B
- Specific target organ toxicity following single exposure, Cat. 3
- Flammable liquids, Cat. 3
- Corrosive to metals, Cat. 1

GHS label elements, including precautionary statements

Pictograms

Signal word	**Danger**

Hazard statement(s)

H226	Flammable liquid and vapor
H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
H332	Harmful if inhaled
H335	May cause respiratory irritation

Precautionary statement(s)

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting/...] equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
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.
P310	Immediately call a POISON CENTER/doctor/physcian
P363	Wash contaminated clothing before reuse.
P370+P378	In case of fire: Use agents recommended in Section 5 of SDS for extinction
P390	Absorb spillage to prevent material-damage.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P406	Store in a corrosive resistant/… container with a resistant inner liner.
P501	Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Component	Identification	Weight %	Classifications
Isopentyl alcohol	CAS no.: 123-51-3 EC no.: 204-633-5	>= 75 %	CLASSIFICATIONS: Acute toxicity, inhalation, Cat. 4; Flammable liquids, Cat. 3; Specific target organ toxicity, single exposure, Cat. 3. HAZARDS: H226 - Flammable liquid and vapor; H332 - Harmful if inhaled; H335 - May cause respiratory irritation; H336 - May cause drowsiness or dizziness.
Hydrochloric acid (<37%)	CAS no.: 7647-01-0 EC no.: 231-595-7 Index no.: 017-002-01-X	< 25 %	CLASSIFICATIONS: Specific target organ toxicity, single exposure, Cat. 3; Skin corrosion/irritation, Cat. 1B; Eye damage/ irritation, Cat. 1. HAZARDS: H314 - Causes severe skin burns and eye damage; H318 - Causes serious eye damage; H335 - May cause respiratory irritation; H336 - May cause drowsiness or dizziness. [SCLs/M-factors/ ATEs]: Skin Corr. 1B; H314: C ≥ 25 %; Skin Irrit. 2; H315: 10 % ≤ C < 25 %; Eye Irrit. 2; H319: 10 % ≤ C < 25 %; STOT SE 3; H335: C ≥ 10 %
4-(Dimethylamino)benzaldehyde	CAS no.: 100-10-7 EC no.: 202-819-0	< 5 %	CLASSIFICATIONS: No data available. HAZARDS: No data available.

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	First Aid Facilities: Maintain eyewash fountain in work area.
If inhaled	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention if breathing problems develop. Do not use mouth-to-mouth method, use an alternative method or a proper respiratory device.
In case of skin contact	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician
In case of eye contact	In case of eye contact, hold eyelids open and rinse with water for at least 15 minutes. Seek immediate medical attention.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice

Most important symptoms/effects, acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary
For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SECTION 5: Fire-fighting measures

Suitable extinguishing media
Caution: Use of water spray when fighting fire may be inefficient.

Small fire: Use foam, dry chemical, CO2 or water spray.
Large fire: Use foam, fog or water spray - Do NOT use water jets.
If safe to do so, move undamaged containers from the fire area. Cool containers with flooding quantities of water until well after the fire is out. Avoid getting water inside the containers.

Specific hazards arising from the chemical
Hazards from Combustion Products: Oxides of carbon.

FLAMMABLE: This product has a low flash point. Will be easily ignited by heat, sparks or flames. Vapours will form explosive mixtures with air. Vapours will travel to source of ignition and flash back. Many vapours are heavier than air and will collect in low or confined areas (drains, basements, tanks). Many liquids are lighter than water. Containers may explode on heating. Fire will produce irritating, poisonous or corrosive gases. Vapours from run-off may create an explosion hazard.

Special protective actions for fire-fighters
Wear SCBA and fully encapsulating, gas-tight suit when handling these substances. Structural firefighter's uniform is NOT effective for these materials.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

Methods and materials for containment and cleaning up
Eliminate all ignition sources (no smoking, flares, sparks or flame) within at least 50m. All equipment used when handling the product must be earthed. Do NOT touch or walk through spilled material. Stop leak if safe to do so. Prevent entry into waterways, drains, confined areas. Vapour-suppressing foam may be used to control vapours. Water spray may be used to knock down or divert vapour clouds.
Absorb with earth, sand or other non-combustible material. Use clean, non-sparking tool to collect absorbed material and place it into loosely-covered metal or plastic containers for later disposal.
SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.

SECTION 7: Handling and storage

Precautions for safe handling
Use of safe work practices are recommended to avoid eye or skin contact and inhalation of vapours. Use only outdoors or in a well-ventilated area.
Take precautionary measures against static discharge. Food, beverages and tobacco products should not be stored or consumed where this material is in use. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Provide eyewash fountains and safety showers in close proximity to points of potential exposure.

Conditions for safe storage, including any incompatibilities
Store in a cool, dry and well ventilated area out of direct sunlight. Keep in original container tightly closed when not in use. Protect from heat, sparks, open flames and other sources of ignition. Keep away from strong oxidising agents and alkalies.

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: 123-51-3
Isopentyl alcohol
AU/SWA (Australia): 125 ppm; 452 mg/m3 STEL inhalation [Isoamyl alcohol]; 100 ppm; 361 mg/m3 TWA inhalation [Isoamyl alcohol]

CAS: 7647-01-0
Hydrochloric acid (<37%)

AU/SWA (Australia): 5 Peak limitation ppm; 7.5 Peak limitation mg/m3 TWA inhalation [Hydrogen chloride]

Appropriate engineering controls
Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection
The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection
Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Body protection
Footwear: Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

Body Protection: Clean clothing or protective clothing should be worn, preferably with and apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Respiratory protection
If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/ mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian Standards AS/ NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/ NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	No data available.
Color	Straw
Odor	Mild pleasant odour.
Odor threshold	No data available.
Melting point/freezing point	No data available.
Boiling point or initial boiling point and boiling range	No data available.
Flammability	FLAMMABLE.
Lower and upper explosion limit/ flammability limit	Flammable Limits - Lower: 1.2 vol% isoamyl alcohol Flammable Limits - Upper: 8 vol% isoamyl alcohol
Flash point	43 °C (C.C.) isoamyl alcohol
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.

Oxidizing properties	No data available.
pH	No data available.
Kinematic viscosity	No data available.
Solubility	No data available.
Partition coefficient n-octanol/ water (log value)	No data available.
Vapor pressure	No data available.
Evaporation rate	No data available.
Density and/or relative density	No data available.
Relative vapor density	No data available.
Particle characteristics	No data available.

Supplemental information regarding physical hazard classes
No data available.

Further safety characteristics (supplemental)
No data available.

SECTION 10: Stability and reactivity

Reactivity
Stable under normal conditions of storage and handling.

Risk of ignition. Vapours may form explosive mixtures with air

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
Contact with strong oxidising agents increases the risk of fire and explosion. Contact with reducing agents and hydrogen trisulfide causes a vigorous reaction and explosion.

Conditions to avoid
Avoid storing in direct sunlight and avoid extremes of temperature.

Heat, flames and sparks.

Incompatible materials
Strong oxidising agents, acid chlorides, acid anhydrides, alkali metals, alkaline earth metals, fluorine, oxygen and reducing agents.

Hazardous decomposition products
Oxides of carbon. May produce acrid smoke and irritating fumes when heated to decomposition.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Acute Toxicity - Oral: LD50 (rat): 1300 mg/kg isoamyl alcohol

Ingestion: May be harmful if swallowed. Absorption of large quantities my cause the following symptoms: weakness, pain, burning sensations in the chest and stomach, abdominal pain, headache, dizziness, nausea, CNS disorders, feeling of drunkenness or intoxication, inability to move, unconsciousness, coma.

Inhalation: Harmful by inhalation. Vapour causes irritation of the mucous membranes in the nose, throat and respiratory tract. Symptoms include of headache, difficulting in breathing, chest pains, coughing, dizziness, nausea, vomiting, feelings of drunkenness and unconsciousness. Exposure to high concentrations may result in a narcotic effect, central nervous system distrubances and death.

Skin corrosion/irritation
Acute Toxicity - Dermal: LD50 (rabbit): > 3000 mg/kg isoamyl alcohol

Skin: May cause skin irritation. Symptoms include redness and pain.

Serious eye damage/irritation
Causes serious eye damage. Eye contact will cause stinging, blurring,tearing, evere pain and chemical burns, resulting in possible blindness.

Respiratory or skin sensitization
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

Specific target organ toxicity (STOT) - single exposure
May cause respiratory irritation.

Specific target organ toxicity (STOT) - repeated exposure
Not classified based on available information.

Aspiration hazard
Not classified based on available information.

Additional information
Chronic Effects: Repeated or prolonged skin exposure may cause dermatitis. Prolonged or repeated exposure may cause irreversible damage to health, lung damage or death.

SECTION 12: Ecological information

Persistence and degradability
Readily biodegradable - isoamyl alcohol.

Bioaccumulative potential
No data avaliable.

Mobility in soil
No data avaliable.

SECTION 13: Disposal considerations

Disposal methods

Product disposal
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Sewage disposal
No data avaliable.

Other disposal recommendations
Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)
UN Number: 2924
Class: 3, 8
Packing Group: II
Proper Shipping Name: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Contains Pentan-1-ol 75%, Hydrochloric Acid 25%)

Hazchem emergency action code (EAC)
•3WE

IMDG
UN Number: 2924
Class: 3, 8
Packing Group: II
Proper Shipping Name: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Contains Pentan-1-ol 75%, Hydrochloric Acid 25%)

IATA
UN Number: 2924
Class: 3, 8
Packing Group: II
Proper Shipping Name: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Contains Pentan-1-ol 75%, Hydrochloric Acid 25%)

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP
Poison Schedule: NS

SECTION 16: Other information

Further information/disclaimer
ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

Preparation information
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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia
National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'
Safe Work Australia, 'National Code of Practice fot the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.
Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.
Safe Work Australia, Workplace Exposure Standards for Airbourne Contaminants, December 2019
Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au
IATA, Dangerous Goods Regulations (DGR)
IMO, International Maritime Dangerous Goods Code (IMDG)