VETPAK SAFETY DATA SHEET

Section 1: Identification of the Substance or Mixture and of the Supplier

Product Name: Iodine Spray 10%

Recommended Use: As a general veterinary disinfectant.

Company Details: Vetpak Ltd.

Address: 249 Bruce Berquist Dr, Te Awamutu 3800.

Telephone Number: (07) 870 2024

Emergency Telephone Number: (0800) 764-766 24 hours National Poisons Centre, Department of Preventative and Social Medicine, University of Otago, P O Box 913, Dunedin, New Zealand.
(07) 870 2024 Vetpak. 8.00am to 5.00pm Monday to Friday except public holidays.

Date of Preparation: 12 July 2019

Section 2: Hazards Identification

STATEMENT OF HAZARDOUS NATURE

This product is HAZARDOUS IN THIS FORM AND AT THIS STRENGTH.
Hazardous substances Class 3, Packing Group II
Handle correctly and as directed by this SDS.

HAZARD LABELLING WARNING

HAZARD CLASSIFICATION AND STATEMENTS

HSNO	HSNO	GHS	Signal Word	GHS Hazard Statement
Ethanol >50% in a non hazardous diluent HSR006424				
3.1B	Flammable liquid – high hazard	Category 2	Danger	H225 Highly flammable liquid and vapour
6.4A	Irritating to the eye	Category 2	Warning	H319 Causes serious eye irritation
Potassium Iodide >1 – 3% in a non hazardous diluent HSR006623				
6.5B	Contact Sensitiser	Category 1	Warning	H317 May cause an allergic skin reaction
Iodine >1 – 3% in a non hazardous diluent HSR006447				
6.3A	Irritating to the skin	Category 2	Warning	H315 Causes skin irritation
6.4A	Irritating to the eye	Category 2	Warning	H319 Causes serious eye irritation
6.5B	Contact Sensitiser	Category 1	Warning	H317 May cause an allergic skin reaction
6.9B	Harmful to human target organs or systems	Category 2	Warning	H371 May cause damage to organs through dermal exposure

GHS Prevention Statements

P103:	Read label before use
P210:	Keep away from heat/hot surfaces/sparks/open flames/other ignition sources. No smoking.
P233:	Keep container tightly closed
P240:	Ground/bond container and receiving equipment.
P241:	Use explosion-proof electrical/ventilation/lighting
P242 & P243:	Use only non-sparking tools & Take precautionary measures against static discharge
P261:	Do not breathe dust/fume/gas/mist/vapours/spray
P264:	Wash hands thoroughly after handling
P270:	Do not eat, drink or smoke when using this product
P272:	Contaminated work clothing should not be allowed out of the workplace
P280:	Wear protective gloves/clothing and eye/face protection

Phone 07-870-2024 Fax: 07-870-2032 e-mail info@vetpak.co.nz Web: www.vetpak.co.nz

Section 3: Composition / Information on Ingredients:

COMPOSITION

Ingredient	CAS Number	% w/w	HAZARDOUS
Ethanol	64-17-5	>60	Yes 3.1B; 6.4A
Water	7732-18-5	30-60	No
Potassium Iodide	7681-11-0	<10	Yes 6.5B; 9.1B
Iodine	7553-56-2	<10	Yes 6.1D; 6.5B; 6.9B; 8.2C; 8.3A; 9.1A; 9.3C

Section 4: First Aid Measures:

Description of necessary first Aid measures:

Swallowed: Do not induce vomiting. If victim is conscious and alert give 2 – 4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Skin: Flush skin with plenty of water, while removing contaminated clothing. Wash clothing before re-use.

Eye: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Inhaled: Remove from exposure and move to fresh air immediately. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Workplace Facilities: Fire extinguisher, eye bath and running water.

Notes for Medical Personnel: Treat symptomatically and supportively. Persons with skin or eye disorders or liver, kidney, chronic respiratory diseases may be at increased risk from exposure to this substance. Replace fluid and electrolytes.

Section 5: Fire Fighting Measures

Type of Hazard: Highly Flammable liquid.

Fire Hazard Properties: Containers can build up pressure and may explode if exposed to heat and / or fire. Vapours may form an explosive mixture with air. Vapours can travel to a source of ignition and flash back. Will burn if involved in a fire. Can release vapours that form explosive mixtures at temperatures above the flash point.

Flash point: 16.6ºC.

Auto-ignition Temperature: 363ºC.

Extinguishing Media & Methods: For small fires, use dry chemical, carbon dioxide water spray or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Do not use straight streams of water.

Recommended Protective Clothing: As in any fire, wear a self-contained breathing apparatus in pressure demand, MSHA / NIOSH (approved or equivalent), and full protective gear.

Section 6: Accidental Release Methods

Procedures to be covered: Shut off all possible sources of ignition. Clear area of all unprotected personnel. Wear protective equipment to prevent skin and eye contamination, and inhalation of vapours. Contain. Do not allow chemical to enter confined spaces such as sewers due to explosion risk.

Small spill or leak (230 litres or less): Dilute with water and mop up, or absorb with an inert dry material (soil, sand or other inert material).

Major spills (> 230 litres): Clear area of personnel and move upwind. Alert fire brigade; explain location and nature of hazard. Ethyl Alcohol may be violently or explosively reactive. Wear breathing apparatus and protective clothing. Prevent from any means available, spillage from entering drains or water-courses. Consider evacuation. No smoking, naked lights or ignition sources. Increase ventilation. Stop leaks if safe to

Phone 07-870-2024 Fax: 07-870-2032 e-mail info@vetpak.co.nz Web: www.vetpak.co.nz

do so. Water vapour or fog may be used to disperse vapour. Contain spill with sand, earth or vermiculite. Use only spark free shovels and explosion proof equipment. Collect recoverable product into labelled containers for recycling. Absorb remaining product with sand, earth or vermiculite. Collect solid residues and seal in labelled drums for disposal. Wash area and prevent runoff into drains. If contamination of sewers or waterways and or surrounding environment has occurred, notify local emergency services, local authorities, and the Regional Council.

Section 7: Handling and Storage

Handling Practices: Avoid breathing vapours or spray mists. Use only with adequate ventilation. Keep container closed. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion proof electrical (ventilating, lighting and material handling) equipment.

Store Site Requirements: Store in a segregated and approved area. Keep container in a cool, well-ventilated area away from sunlight. Store away from oxidising agents, such as alkali metals, acids, acid chlorides, ammonia, and potassium tert-butoxide. In case of flexible tubing usage, check with manufacturer to find product compatibility. Keep container tightly closed and sealed until ready for use. Check regularly for leaks. Avoid all possible sources of ignition (spark or flame).

Packaging: Aluminium is not a suitable container for package.

Section 8: Exposure Controls / Personal Protection

Workplace Exposure Standards: Threshold Limit Value – Time weighted Average (TLV – TWA) 1000ppm 1880mg/m^3 (Ethanol), (As published by New Zealand Occupational Safety and Health Service – OSH)

Odour Threshold 350ppm (Ethanol).

Engineering Controls: Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. Use with local exhaust ventilation or while wearing organic vapour respirator. Vapour heavier than air – prevent concentrations in hollows or sumps. DO NOT enter confined spaces where vapour may have collected. Keep containers closed when not in use. Earth all containers to reduce the possibility of sparks from static electricity.

Personal Protective Equipment (PPE): Wear appropriate clothing to prevent repeated or prolonged skin contact. Gloves made of butyl rubber, Nitrile plus PVC, or PVC. Where eye exposure is reasonably probable always wear approved chemical safety goggles or Safety Glasses with side shields. It would be advisable not to use contact lenses when working with this chemical as soft lenses may absorb irritants, and all lenses will concentrate vapours on the surface of the eye. If inhalation risk exists wear organic vapour respirator meeting the requirements of AS/NZS 1715 and AS/NZS1716.

Personal Hygiene: Do not eat, drink or smoke when handling this product.

Phone 07-870-2024 Fax: 07-870-2032 e-mail info@vetpak.co.nz Web: www.vetpak.co.nz

Section 9: Physical and Chemical Properties

Appearance (physical state, colour etc.): Brown liquid.

Odour: Iodine

pH:

Melting Point/Freezing Point (ºC):

Boiling Point (ºC):

Flash Point (ºC): <23

Flammability:

Lower Flammability/Explosive Limit:

Upper Flammability/Explosive Limit:

Auto-ignition Temperature (ºC): 363

Vapour Pressure:

Vapour Density:

Relative Density:

Solubility in Water: Totally soluble.

Specific Gravity: 0.86 (water = 1)

Viscosity:

Section 10: Stability and Reactivity

Stability of the Substance: Product is stable under normal conditions of storage.

Conditions to avoid: Sparks, open flames, heat and other sources of ignition. Avoid electrostatic discharges.

Material to avoid: Reactive with oxidising agents, alkali metals, acids, acid chlorides, ammonia, and Potassium tert-butoxide. Aluminium containers should be avoided as aluminium alcoholates may be formed under certain conditions.

Hazardous decomposition Products: Not applicable because product is stable.

Hazardous polymerization: Will not occur.

Section 11: Toxicological Information

Data and interpretation: No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms that may arise if the product is mishandled and over-exposure occurs are:

Acute Effects:

Swallowed: Swallowing can result in nausea, vomiting, dizziness, fatigue, headache and central nervous system depression. If the victim is uncoordinated there is a greater likelihood of vomit entering the lungs and causing subsequent complications.

Skin: Contact with skin will result in mild irritation. Will have a degreasing action on the skin. Repeated or prolonged skin contact may lead to irritant contact dermatitis.

Eye: Is an eye irritant. HSNO classification, 6.4A – Eye Irritant.

Inhaled: Vapour may be an irritant to the mucous membranes and respiratory tract. Inhalation of vapour can result in headaches, dizziness, fatigue and possible nausea. Inhalation of high concentrations can produce central nervous system depression, which can contribute to loss of coordination, impaired judgement and, if exposure is prolonged, unconsciousness.

Phone 07-870-2024 Fax: 07-870-2032 e-mail info@vetpak.co.nz Web: www.vetpak.co.nz

Acute Toxicity:

Acute oral toxicity (LD50); 7060 mg/kg (Rat) (Ethanol)

Acute toxicity of the vapour (LC50); 66,000ppm 4 hours (Rat) (Ethanol)

Chronic Effects: Evidence from animal tests and studies on exposed humans indicate that repeated or prolonged exposure to this chemical could result in liver damage

Chronic Toxicity:

Carcinogenic Effects: There is no clear evidence that ethanol is carcinogenic to laboratory animals. It is however a tumour promoter.

Mutagenic Effects: Ethanol itself is not mutagenic, but its metabolite acetaldehyde is mutagenic.

Developmental Effects: Oral exposure to ethanol produces malformations and developmental toxicity in rats and mice at maternally toxic doses. Ethanol is equally foetotoxic in experimental animals by inhalation or oral exposure.

Section 12: Ecological Information

Potential Environmental Considerations: Ethanol is harmful to aquatic life. Ethanol has a low potential for bioaccumulation and is substantially biodegradable in water.

Ecotoxicity in water:

(LC50) 13,000mg/l 96 hours (Trout)

(LC50) 15,300 mg/L 96 hours (Fathead Minnow)

(LC50) 250ppm 8 hours (Goldfish)

HSNO Classification 9.1D – harmful to aquatic life.

Products of Degradation: Formaldehyde and Acetic Acid. The products of degradation are more toxic than ethanol.

Section 13: Disposal Considerations

Disposal Information: Can be disposed of in Sewerage treatment facility provided it is first diluted with sufficient water to bring the mixture below the flammable threshold (less than 3% ethanol by volume) i.e. to raise the flashpoint above 93ºC. This requirement is included to ensure that flammable substances do not collect in pockets of sewerage collection system with resultant fires or vapour explosions. Large volumes may be suitable for re-distillation by solvent contractors.
Container Disposal: Empty containers may contain hazardous residues. Labels should not be removed from containers until they have been appropriately cleaned. Do not cut, puncture or weld on or near to the containers.
Containers should be cleaned by approved methods and then re-used or disposed of by approved landfill. After cleaning, all existing labels should be removed. Do not incinerate closed containers.

Section 14: Transport Information

Hazard Class: 3.1B; 6.1E; 6.4A; 6.8B; 6.9B

UN-No: 1170 (Ethanol).

Packing Group: II

Hazchem Code: 2(Y)E

Proper Shipping Name: Ethanol (Ethyl Alcohol).

Segregation: Not to be loaded with explosives (Class1), Flammable gasses (Class 2.1). If both are in bulk, toxic gasses (Class 2.3), spontaneously combustible substances (Class 4.2), oxidising agents (Class 5.1), organic peroxides (Class 5.2) or radioactive substances (Class 7), however exemptions may apply.

Ethanol is classified as Dangerous Goods and must comply with the Land Transport Rule: Dangerous Goods 2005, and NZS 5433: 1999 Transport of Dangerous Goods on Land.

Phone 07-870-2024 Fax: 07-870-2032 e-mail info@vetpak.co.nz Web: www.vetpak.co.nz

Marine: Classified as Dangerous Goods by International Marine Dangerous Goods Code (IMDG Code) for transport by sea.

Air Transport: Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA). Dangerous Goods Regulations for transport by air.

Section 15: Regulatory Information

HSNO Classifications:

3.1B (Highly Flammable Liquid and Vapour)

6.1E (May be Harmful if Swallowed)

6.4A (Causes Eye Irritation))

6.8B (Suspected of Damaging Fertility or the Unborn Child)

6.9B (Harmful to human target organs or systems)

HSNO Controls:

Trigger quantities for this substance by itself in a place:

- **Location Test Certificate:**
  - 50 litres (open container)
  - 100 litres (closed container > 5L)
  - 250 litres (closed container ≤ 5L)
- **Hazardous Atmosphere Zone:**
  - 1 litre (open continuously)
  - 5 litres (open occasionally)
  - 25 litres (decanting)
  - 100 litres (closed containers)
- **Signage:** 250 litres
- **Emergency Plan:** 1000 litres

Tracking: Not applicable

Section 16: Other Information

Interpretation and Abbreviations
Controls applying to a substance:

- * denotes that changes have been made to these controls, further information on these changes is located in the transfer notice for that substance,
- (R) abbreviation for the term Regulation of the Hazardous Substances regulations

AICS – Australian Inventory of Chemical Substances
AOX – Absorbable organic halogens.
APF – Assigned Protection Factor.
BOD – Biochemical Oxygen Demand China
COD – Chemical Oxygen Demand
DSL – Canadian Domestic Substances List.
EINECS – European Inventory of Existing Commercial Chemical Substances.
ENCS – Japanese Existing and New Chemical substances.
IARC – International Agency for Research on Cancer.
IDLH – Immediately Dangerous to Life or Health Concentrations.
ISHL – Japanese Industrial Safety and Health Law List of Chemicals.
LOEL – Lowest Observed Effect Level.
LC^{50} – Lethal concentration sufficient to kill 50 percent of the test population within a certain time

Phone 07-870-2024 Fax: 07-870-2032 e-mail info@vetpak.co.nz Web: www.vetpak.co.nz

LD^{50} – Lethal Dose sufficient to kill 50 percent of the test population within a certain time
LD_{LO} – Lethal Dose Low (the lowest dosage per unit of bodyweight of a substance known to have resulted in fatality in a particular animal species).
MAK – Maximum workplace concentration in the workplace air that generally does not have known adverse effects on the health of the employee nor cause unreasonable annoyance when a person is repeatedly exposed during long periods, usually 8 hours daily, 40hour working week).
NOAA – National Oceanic and Atmospheric Administration.
NOEC – No Observed Effect Concentration.
NTP – National Toxicology Program.
NZIoC – New Zealand Inventory of Chemicals.
OECD HPV – The Organisation for Economic Co-operation and Development High Product Volume Chemicals.
PEL – Permissible exposure limit.
PPE – Personal Protective Equipment.
Prop 65 – California Proposition 65 List of Chemicals.
RTECS – Registry of Toxic Effects of Chemical substances
STEL – Short term exposure limit.
TC^{LO} – Toxic concentration low (the lowest concentration of a substance known to have resulted in fatality in a particular animal species)
TOC – Total Organic Carbon.
TSCA – US Toxic Substances Control Act Existing Chemicals.
TWA - The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.
VOC – Volatile Organic Compounds.

Date of Preparation/Review: 12 July 2019

Sources of key data used to compile the datasheet:
Manufacturers SDS
NZ EPA CCID
Health and Safety at Work (Hazardous Substances) Regulations 2017
Hazardous Substances (Safety Data Sheets Notice 2017
Hazardous Substances (Classification) Notice 2017
Labelling of Hazardous Substances Technical Guide 2012

DISCLAIMER
The information contained in this safety data sheet was obtained from current and reliable sources. This data is supplied without warranty, expressed or implied, regarding its correctness and accuracy. It is the user's responsibility to determine safe conditions for use of this product and to assume liability for loss, injury, damage or expense resulting from improper use of this product.

END OF SDS

Phone 07-870-2024 Fax: 07-870-2032 e-mail info@vetpak.co.nz Web: www.vetpak.co.nz