


# SAFETY DATA SHEET

## I-Clor Injection

### SECTION 1: IDENTIFICATION

<b>Product name:</b>	<b>I-Clor Injection</b>
<b>ACVM registration no:</b>	<b>A011927</b>
<b>Recommended use:</b>	<b>For the treatment and control of internal and external parasites of cattle, including adult liver fluke.</b>
<b>Supplier:</b>	<b>HORIZON AGRESOURCES (NZ) Ltd</b>
<b>Address:</b>	<b>Gloucester Court 250 Gloucester St, Napier 4112, New Zealand</b>
<b>Contact number:</b>	<b>0800 378 6300</b>
<b>Emergency contact number:</b>	<b>0800 734 607 (24 hours)</b>
<b>National Poisons Centre:</b>	<b>0800 764 766 (0800 POISON)</b>
<b>Document version and date:</b>	<b>1.0 19 January 2023</b>

### SECTION 2: HAZARD IDENTIFICATION

<b>HSNO approval number:</b>	HSR100758 Veterinary Medicines (Non-dispersive Closed System Application) Group Standard 2020
<b>GHS classification:</b>	Acute oral toxicity Category 4 Germ cell mutagenicity Category 2 Reproductive toxicity Category 2 Reproductive toxicity - additional effects on or via lactation Specific target organ toxicity (repeated exposure) Category 2 Hazardous to the aquatic environment acute Category 1 Hazardous to the aquatic environment chronic Category 1 Hazardous to soil organisms Hazardous to terrestrial vertebrates Hazardous to terrestrial invertebrates
<b>Signal word:</b>	Warning
<b>GHS pictogram:</b>	
<b>Hazard statement:</b>	<p>H302: Harmful if swallowed.</p> <p>H341: Suspected of causing genetic defects.</p> <p>H361: Suspected of damaging fertility or the unborn child.</p> <p>H362: May cause harm to breast-fed children.</p> <p>H373: May cause damage to organs through prolonged or repeated exposure.</p> <p>H400: Very toxic to aquatic life.</p> <p>H410: Very toxic to aquatic life with long lasting effects.</p> <p>Hazardous to soil organisms.</p> <p>Hazardous to terrestrial vertebrates.</p> <p>Hazardous to terrestrial invertebrates.</p>

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<b>Prevention statement:</b>	<p>P201: Obtain special instructions before use.</p> <p>P103: Read label before use.</p> <p>P202: Do not handle until all safety precautions have been read and understood.</p> <p>P260: Do not breathe dusts or mists.</p> <p>P263: Avoid contact during pregnancy and while nursing.</p> <p>P264: Wash hands and exposed skin thoroughly after handling.</p> <p>P270: Do not eat, drink or smoke when using this product.</p> <p>P280: Wear protective gloves, protective clothing, eye/face protection.</p> <p>P273: Avoid release to the environment.</p>
<b>Response statement:</b>	<p>P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.</p> <p>P314: Get medical advice/attention if you feel unwell.</p> <p>P330: Rinse mouth.</p> <p>P308 + P313: IF exposed or concerned: Get medical advice/attention.</p> <p>H391: Collect spillage.</p>
<b>Storage statement:</b>	<p>P405: Store locked up.</p>
<b>Disposal statement:</b>	<p>P501: Dispose of contents and containers as specified on the registered label.</p>

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Product ingredients	CAS Number	Concentration
Ivermectin	70288-86-7	10 g/L
Clorsulon	60200-06-8	100 g/L

Remaining ingredients are commercially sensitive and cannot be disclosed in a public document.

### SECTION 4: FIRST AID MEASURES

<b>General information</b>	<p>For advice contact the National Poisons Centre on 0800 POISON (0800 764 766), or a doctor immediately.</p> <p>Observe good work practices and avoid skin and eye contact.</p> <p>Wash hands and exposed skin before meals and after use.</p> <p>Do not eat or drink while using.</p> <p>Launder protective clothing separately from other clothing, and before each re-use.</p> <p>SELF-INJECTION: Seek medical attention.</p>
<b>Inhalation:</b>	Remove to fresh air. If breathing is difficult, get medical attention.
<b>Skin contact:</b>	Remove contaminated clothing and flush skin and hair with running water. Get medical attention if irritation develops.
<b>Eye contact:</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation occurs.
<b>Ingestion:</b>	If swallowed: Rinse mouth out with water. Do NOT induce vomiting. Seek medical attention immediately. Have product container to hand.
<b>Workplace facilities:</b>	No special facilities required.
<b>Notes for medical personnel:</b>	<p>Apply symptomatic therapy (no specific antidote).</p> <p>Note the nature of the product (Acute oral toxicity, Germ cell mutagenicity, reproductive toxicant, Specific target organ toxicity).</p>

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SECTION 5: FIRE FIGHTING MEASURES	
<b>Fire and explosion hazards:</b>	Non flammable, Non combustible, Non explosive
<b>Extinguishing media:</b>	Sprayed water jet, foam, dry chemical powder, CO <sub>2</sub> and sand.
<b>Fire Fighting:</b>	Self-contained breathing apparatus. Safety boots, non-flammable overalls, gloves, hat and eye protection.
<b>Flash point:</b>	No data available
<b>Auto ignition temperature:</b>	No data available
<b>Flammability class:</b>	No data available
<b>Hazchem code:</b>	3Z

SECTION 6: ACCIDENTAL RELEASE MEASURES	
<b>Personal precautions:</b>	Wear suitable protective clothing. Restrict access to contaminated area.
<b>Environmental precautions:</b>	Contain the spill and prevent further dispersion. Absorb spills with inert material (e.g. sand or vermiculite), and place in waste containers. Wash the area with water and absorb with further inert material. Collect spilled material and place in sealable containers for subsequent disposal. Prevent contamination of water courses or sewers. Dispose of waste safely. Place damaged containers into containment devices. Retrieve intact containers from the site.
<b>Methods and materials for containment and cleaning up:</b>	If greater than 100L is stored in one location, secondary containment and emergency plans to manage any potential spills must be in place. In all cases design storage to prevent discharge to storm-water drains. (If this occurs contact your regional council immediately).

SECTION 7: HANDLING AND STORAGE	
<b>Handling:</b>	Avoid self injection. Do not handle until all safety precautions have been read and understood. Avoid contact during pregnancy and while nursing. Do not breathe dusts or mists. Do not eat, drink or smoke when using this product. Wear protective gloves, protective clothing, eye/face protection. Wash hands and exposed skin thoroughly after handling.
<b>Certified handler:</b>	Not required
<b>Tracking:</b>	Not required
<b>Storage:</b>	Store below 25°C. Protect from light. Store locked up and out of reach of children. Store locked up. This substance is subject to a requirement for an emergency management plan, secondary containment and signage, whenever it is held in quantities of 100L or more. See Hazardous Substances (Emergency management) regulations 25 to 42. Packaging Schedule 3 (UN Packing Group III) for quantities >1L (Hazardous Substances Packaging Regulations 2001).

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION	
<b>Occupational exposure limits:</b>	Exposure limits have not been established for any of the significant ingredients in this product.
<b>Engineering controls:</b>	Prevent exposure by using personal protective equipment and work practices that prevent skin and eye contact, and prevent release to the environment.
<b>Protective material types:</b>	Clothing should consist of overalls with long sleeves, and impervious gloves. Wear eye protection (e.g. glasses, goggles or face shield).

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
<b>Appearance:</b>	Non aqueous solution
<b>Odour:</b>	No data available
<b>Odour threshold:</b>	No data available
<b>pH:</b>	No data available
<b>Melting point/freezing point:</b>	No data available
<b>Initial boiling point and boiling range:</b>	No data available
<b>Flash point</b>	No data available
<b>Flammability:</b>	No data available
<b>Upper/lower flammability or explosive limits:</b>	No data available
<b>Vapour pressure:</b>	No data available
<b>Vapour density:</b>	No data available
<b>Relative density:</b>	No data available
<b>Solubility (ies):</b>	No data available
<b>Partition coefficient: n-octanol/water:</b>	No data available
<b>Auto-ignition temperature:</b>	No data available
<b>Decomposition temperature:</b>	No data available
<b>Kinematic viscosity:</b>	No data available
<b>Particle characteristics:</b>	No data available

SECTION 10: STABILITY AND REACTIVITY	
<b>Reactivity:</b>	Stable under normal conditions of use and storage.
<b>Conditions to Avoid:</b>	Avoid high temperatures and direct sunlight.
<b>Incompatibilities:</b>	No specific materials to avoid.
<b>Hazardous decomposition products:</b>	Hazardous decomposition products are expected when heated to decomposition temperatures. Use appropriate PPE when fighting fires.

SECTION 11: TOXICOLOGICAL INFORMATION	
<b>Acute toxicity:</b>	<p><b>Ivermectin</b> Acute Tox.2 (oral) H300: Fatal if swallowed Species: Mouse (m) Endpoint: LD50 Value: 11.6 mg/kg</p> <p>Acute Tox.3 (dermal) H311: Toxic in contact with skin Species: Rabbit Endpoint: LD50 Value: 406 mg/kg</p>
<b>Skin corrosion/irritation:</b>	No data available

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<b>Serious eye damage/ irritation:</b>	No data available
<b>Respiratory or skin sensitisation:</b>	No data available
<b>Germ cell mutagenicity:</b>	<p><b>Clorsulon</b> Muta.2 H341: Suspected of causing genetic defects</p> <p>Mutagenic properties of clorsulon were tested in three in vitro and two in vivo tests. The three in vitro tests, Salmonella-microsomal assay, unscheduled synthesis DNA in human MRL-90 fibroblasts and measurement of DNA single strand breaks by alkaline elution in human MRL-90 fibroblasts gave negative results. However, positive results were obtained for the two in vivo tests, a bone marrow micronucleus test (oral doses up to 2000 mg/kg bw in mice) and the chromosomal aberration test (oral doses up to 500 mg/kg bw in mice).</p>
<b>Carcinogenicity:</b>	No data available
<b>Reproductive toxicity:</b>	<p><b>Ivermectin</b> Classification effect on or via lactation H362: May cause harm to breast-fed children Repeated dose toxicity Oral Route</p> <p>The developmental toxicity of ivermectin has been investigated in mice, rats, rabbits, and dogs. The results demonstrated that teratogenic effects (cleft palates in mice, rats, and rabbits; clubbed fore-paws without skeletal alterations in rabbits) were produced only at dose levels similar to those causing severe toxic effects in pregnant animals. The no-observed-effect level for teratogenicity in the most sensitive species and strain, the CF1 mouse, was 0.2 mg/kg b.w./day, while for maternal toxicity it was 0.1 mg/kg b.w./day.</p> <p><b>Clorsulon</b> Repr.2 H361: Suspected of damaging fertility or the unborn child Effect on fertility, Effect on developmental toxicity: In a 3-generation study carried out in rats (0, 3, 30, 300 mg/kg bw orally), the reproductive performance of female rats, viability and growth of offspring in each generation were significantly affected at 300 mg/kg bw. There was no effect on the reproductive performance at the low and middle dose. A NOEL of 30 mg/kg bw/day was retained from this study.</p>
<b>Specific target organ toxicity – single exposure:</b>	No data available
<b>Specific target organ toxicity – repeated exposure:</b>	<p><b>Ivermectin</b> STOT Rep.Exp.1 H372: Causes damage to organs</p> <p><b>Clorsulon</b> STOT Rep.Exp.1 H372: Causes damage to organs Repeated dose toxicity Oral Route Primary Organ Effected: Renal toxicity (Kidney) Secondary Organ(s) Effected: Renal toxicity (Kidney) Weight loss/metabolic</p> <p>In a 54 week oral toxicity study in rats with a 27 week interim necropsy, groups of 60 albino rats (30 animals per sex and dose) received clorsulon by gavage at doses of 0 (0.5% aqueous methylcellulose), 0.2, 2 and 20 mg/kg bw/day. At interim sacrifice (10 animals per sex per dose), hyperplasia of the urinary bladder was reported in 4 and 7 males treated at 2 and 20 mg/kg bw, respectively.</p>

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	In females, this effect was only reported in 2 animals treated at the highest dose. At terminal sacrifice this finding was not so clear with 0 male and 1 female in the 2 mg/kg group, and 8 males and 2 females of the highest dose group showing urinary bladder hyperplasia. An increase in incidence and concentration of triple phosphate crystals primarily in males, which became more prominent in week 51 was also described in the two highest dose groups. At the lowest dose, 0.2 mg/kg bw/day, only a significant increase of pH in urine of males was reported. In absence of hyperplasia of the urinary bladder, of histopathological effects in the kidney and of triple phosphate crystals, this dose of 0.2 mg/kg bw/day was retained as a LOEL.
<b>Aspiration hazard:</b>	No data available

### SECTION 12: ECOLOGICAL INFORMATION

<b>Ecotoxicity-Aquatic:</b>	<p><b>Ivermectin</b> Aquatic Acute 1 H400: Very toxic to aquatic life Fish Dose Descriptor: LC50 Effect concentration: 0.003 mg/L Component A is ecotoxic to fish (LC50 of 0.0032 mg/L for rainbow trout, and 0.0096 mg/L for bluegill sunfish), crustacea (EC50 (48 hours) of 0.00036 mg/L) and to Mysid shrimp (EC50 (48 hours) 0.000022 mg/L (0.022 ppb)). While this component is neither persistent nor bioaccumulative it is classified as highly ecotoxic. Aquatic Invertebrates Dose Descriptor: LC50 Effect concentration: 0.000025 mg/L Component A is ecotoxic to fish (LC50 of 0.0032 mg/L for rainbow trout, and 0.0096 mg/L for bluegill sunfish), crustacea (EC50 (48 hours) of 0.00036 mg/L) and to Mysid shrimp (EC50 (48 hours) 0.000022 mg/L (0.022 ppb)). While this component is neither persistent nor bioaccumulative it is classified as highly ecotoxic. Aquatic Chronic 1 H410: Very toxic to aquatic life with long lasting effects. Aquatic Invertebrates Component A is ecotoxic to fish (LC50 of 0.0032 mg/L for rainbow trout, and 0.0096 mg/L for bluegill sunfish), crustacea (EC50 (48 hours) of 0.00036 mg/L) and to Mysid shrimp (EC50 (48 hours) 0.000022 mg/L (0.022 ppb)). While this component is neither persistent nor bioaccumulative it is classified as highly ecotoxic.</p>
<b>Ecotoxicity-Terrestrial:</b>	<p><b>Ivermectin</b> Hazardous to terrestrial vertebrates Hazardous to terrestrial invertebrates</p>
<b>Persistence and degradability:</b>	<p><b>Ivermectin</b> Neither persistent nor bioaccumulative</p>
<b>The potential to be bioaccumulative:</b>	<p><b>Ivermectin</b> Aquatic Acute 1, Aquatic Chronic 1 Bioaccumulation BCF (aquatic species): 56 dimensionless Bioaccumulative: No Lepomis macrochirus Bluegill BCF = 56 Fresh Water, 28 d, Flow through, Whole fish</p>
<b>Mobility in soil:</b>	<p><b>Ivermectin</b> Hazardous to the soil environment</p>
<b>Other adverse effects:</b>	No data available


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### SECTION 13: DISPOSAL CONSIDERATIONS

<b>Disposal:</b>	Preferably dispose of product by use. Otherwise dispose of product and packaging at an approved landfill or other approved facility. Dispose of empty container by wrapping with paper and putting in garbage. Discarded needles should be immediately placed in a designated and appropriately labelled sharps container. Avoid contamination of any water source. Do NOT re-use container for any other purpose.
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### SECTION 14: TRANSPORT INFORMATION

<b>UN number:</b>	3082
<b>UN proper shipping name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Ivermectin)
<b>UN dangerous goods class and subsidiary risk:</b>	9
<b>UN packaging group:</b>	III
<b>Environmental hazards:</b>	Marine pollutant
<b>Special precautions when transporting the substance:</b>	Maximum transport quantity: 1000L
<b>Transport of dangerous goods pictogram:</b>	

### SECTION 15: REGULATORY INFORMATION

<b>HSNO approval number:</b>	HSR001840 Veterinary Medicines (Non-dispersive Closed System Application) Group Standard 2020
<b>ACVM registration number:</b>	A011927

### SECTION 16: OTHER INFORMATION

<b>Abbreviations:</b>	<p>ACVM: Agricultural Compounds and Veterinary Medicines  EPA: Environmental Protection Authority (previously known as ERMA)  CAS Number: Chemical Abstracts Service Registry Number  GHS: Globally Harmonized System  HAZCHEM Code: Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters  HSNO: Hazardous Substances and New Organisms (Act and Regulations)  UN Number: United Nations Number  SDS: Safety Data Sheet  STEL: Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15-minute period, provided the TWA is not exceeded  TWA: Time Weighted Average – generally referred to WES averaged over typical work day (usually 8 hours)  WES: Workplace Exposure Standard - The airborne  LOEL: Lowest Observed Effect Level  NOEL: No-Observed Effect Level</p>
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	<p>EC50: Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species)</p> <p>LD50: Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).</p> <p>LC50: Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats)</p>
<b>References:</b>	<p>Unless otherwise stated, toxicity information has been obtained from the EPA HSNO chemical classification information database (CCID) <a href="http://www.epa.govt.nz/database-search/">http://www.epa.govt.nz/database-search/</a></p> <p>EPA Transfer Gazettes, Classifications and controls assigned for specific ingredients (consolidated gazette, 2004)</p> <p>Controls Matrix, Part of the EPA New Zealand User Guide to the HSNO Control Regulations</p> <p>WES 2013, The NZ Workplace Exposure Standards Effective from 2013, published by WorkSafe NZ and available on their web site – <a href="http://www.worksafe.govt.nz">www.worksafe.govt.nz</a>.</p> <p>Other References: Suppliers SDSs</p>
<b>Disclaimer:</b>	<p>This SDS was prepared by Horizon Agresources Ltd, and is based on our current state of knowledge, including information obtained from suppliers. This SDS is written in good faith and constitutes a guideline (not a guarantee of safety). The level of risk each substance poses is relevant to its properties (as summarised in the SDS) AND HOW THE SUBSTANCE IS USED. While guidelines are given for personal protective equipment, such precautions must be relevant to the use. The likely HSNO classifications, are based on experience, EPA Guidelines and international classifications. This SDS is copyright Horizon Agresources Ltd, and must not be edited without the permission of the copyright holder or used for other than intended purpose.</p>