

SAFETY DATA SHEETS

This SDS packet was issued with item:

078714757

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

078345017 078345025

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

078345033 078345041 078345058 078408460 078704964 078803141

Merial

IVOMEK POUR-ON FOR CATTLE

Reviewed on 10/01/2001

1 Identification of substance

Product details

Trade name: Ivomec Pour-On for Cattle

Product number: (2.5L), (5L), (20L)

Manufacturer/Supplier:

Merial Limited

115 Transtech Drive

Athens, GA 30601

Merial Canada Inc.

345 N. Boulevard Labbe

Victoriaville, Quebec G6P 181

Information Phone No.: 819-758-0506

Emergency Phone No.: 800-424-9300

Information department: MSDS Coordinator

Emergency information:

Spill In formation:

CHEMTREC(R) 1-800-424-9300

CHEMTREC(R) International 1+703-527-3887

Reverse charges.

Health Information: 1-888-637-4251, Option 5

2 Composition/Data on components

Chemical characterization

Description: Mixture: consisting of the following components.

Components:

	Non hazardous		19.5%
	inert ingredients		
67-63-0	Isopropanol	Xi, F; R 11-36-67	80.0%
70288-86-7	Ivermectin Comp.	T, N; R 20/21-25-50	0.5%
	Bla (C48H74O1)		
	Comp. Blb (C47H72O14)		

3 Hazards identification

Hazard description:

Pictogram: F Highly flammable

Information pertaining to particular dangers for man and environment: R 11 Highly flammable.

Classification system: The classification was made according to the latest editions of international substances lists, and from company and regulatory data.

NFPA ratings (scale 0 - 4)

Health = 3

Fire = 3

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 3

Fire = 3

Reactivity = 0

4 First aid measures

General information: No special measures required. Involve doctor immediately.

After inhalation: Seek immediate medical advice.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for a minimum of 15 minutes under running water. If symptoms occur, consult a doctor.

After swallowing: Immediately call a doctor. Induce vomiting, if person is conscious. Seek medical help.

5 Fire fighting measures

Suitable extinguishing agents: CO2, sand, extinguishing powder. Do not use water. Water mist

For safety reasons unsuitable extinguishing agents: Water with full jet

Protective equipment: Fire fighters should wear self-contained breathing apparatus and full protective equipment.

6 Accidental release measures

Person-related safety precautions: Mount respiratory protective device. Wear protective equipment. Keep unprotected persons away.

Measures for environmental protection: Do not allow product to reach sewage system or any water course.

Measures for cleaning/collecting: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to Section XIII. Ensure adequate ventilation. Do not flush with water or aqueous cleansing agents

7 Handling and Storage

Handling:

Information for safe handling: Store in cool, dry place in tightly closed containers. Handle with care. Avoid jolting and impact. Use only in well ventilated areas.

Information about protection against explosions and fires: Keep ignition sources away - Do not smoke. Protect against electrostatic charges.

Storage:

Requirements to be met by storerooms and receptacles: Store in a cool location. Store only in the original container. Protect from light.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep receptacle tightly sealed. Store in cool, dry conditions in well sealed receptacles. Store in a cool, dry, well ventilated place.

8 Exposure controls and personal protection

Additional information about design of technical systems: No further data; see item 7.

Components with limit values that require monitoring at the workplace:

67-63-0 Isopropanol

ACGIH TLV (USA)	Short-term value: (1230) mg/m3, (500) ppm
	Long-term value: (983) mg/m3, (400) ppm
	NIC A 4
NIOSH REL (USA)	Short-term value: 1225 mg/m3, 500 ppm
	Long-term value: 980 mg/m3, 400 ppm
OSHA PEL (USA)	980 mg/m3, 400 ppm
MAK (Germany)	500 mg/m3, 200 ppm
	Y; (DFG)

Additional information: The lists that were valid during the creation were used as basis.

Personal protective equipment:

General protective and hygienic measures: Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin. Do not eat, drink, smoke or inhale. Do not store food in the working area.

Protection of hands: Not required under normal conditions of use.

Eye protection:

Pictogram: Tightly sealed goggles

Body protection: Impervious protective clothing

Merial

IVOMEK POUR-ON FOR CATTLE

9 Physical and chemical properties

Form: Liquid
 Color: Colored liquid
 Odor: Characteristic
 Change in condition
 Melting point/Melting range: Undetermined.
 Boiling point/Boiling range: 82 deg C (180 deg F)
 Flash point: 14 deg C (57 deg F)
 Ignition temperature: 425 deg C (797 deg F)
 Auto igniting: Product is not self-igniting.
 Danger of explosion: Product is not explosive. However,
 formation of explosive air/vapor mixtures are possible.
 Explosion limits:
 Lower: 2.0 Vol %
 Upper: 12.0 Vol %
 Vapor pressure at 20 deg C (68 deg F): 43.0 hPa
 Specific gravity: Not determined.
 Solubility in / Miscibility with Water: Not miscible or
 difficult to mix.
 Solvent content:
 Organic solvents: 80.0%

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No
 decomposition if used according to specifications.
 Dangerous reactions: No dangerous reactions known.
 Dangerous products of decomposition: No dangerous
 decomposition products known.

11 Toxicological information

Acute toxicity:
 LD/LC50 values that are relevant for classification:
 67-63-0 Isopropanol

Oral	LD50	4570 mg/kg (rat)
Dermal	LD50	13400 mg/kg (rabbit)
Inhalative	LC50/4 h	30 mg/l (rat)

70288-86-7 Ivermectin Comp. Bla (C48H74O1)
 Comp. Blb (C47H72O14)

Oral	LD50	~80 mg/kg (dog) 25 mg/kg (mouse) 50 mg/kg (rat)
Dermal	LD50	406 mg/kg (rabbit) >660 mg/kg (rat)
Inhalative	LC50/4 h	5.11 mg/l (rat)

Primary irritant effect:
 On the skin: No irritating effect known.
 On the eye: No irritating effect known.
 Sensitization: No sensitizing effects known.

12 Ecological information

Ecotoxological effects:
 Acquatic toxicity:

70288-86-7 Ivermectin Comp. Bla (C48H74O1)
 Comp. Blb (C47H72O14)

LC50 /48 hrs	0.025 ppb (daphnia magna)
LC50/96 hours	.3 ug/l (Rainbow Trout)

General notes:
 Water hazard class 1 (Self-assessment): slightly
 hazardous for water. Do not allow undiluted product or
 large quantities of it to reach ground water, water
 course or sewage system.

13 Disposal considerations

Product:
 Recommendation: Can be disposed of with household garbage
 after consulting with the waste disposal facility
 operator and the pertinent authorities and adhering to
 the necessary technical regulations.
 Uncleaned packagings:
 Recommendation: Disposal must be made according to
 official regulations.

14 Transport information

DOT regulations:
 Hazard class: 3
 Identification number: UN1993
 Packing group: II
 Proper shipping name (technical name): Flammable liquid,
 n.o.s., isopropanol (Isopropyl alcohol)
 Land transport ADR/RID (cross-border):
 ADR / RID class: 3 Flammable liquids
 Item: 3b
 Danger code (Kemler): 33
 UN-Number: 1993
 Proper shipping name: 1993 Flammable liquid, n.o.s.,
 isopropanol (Isopropyl alcohol)
 Maritime transport IMDG:
 IMDG Class: 3.2
 Page: 3230
 UN Number: 1993
 Packaging group: II
 EMS Number: 3-07
 MFAG: 310,313
 Marine pollutant: No
 Proper shipping name: Flammable liquid, n.o.s.,
 isopropanol (Isopropyl alcohol)
 Air transport ICAO-TI and IATA-DGR:
 ICAO/IATA Class: 3
 UN/ID Number: 1993
 Packing group: II
 Proper shipping name: Flammable liquid, n. o. s.,
 isopropanol (Isopropyl alcohol)

15 Regulations

Sara
 Section 355 (extremely hazardous substances): None of the
 ingredients are listed.
 Section 313 (Specific toxic chemical listings):
 67-63-0 | Isopropanol
 TSCA (Toxic Substances Control Act):
 67-63-0 | Isopropanol
 CA Proposition 65
 Chemicals known to cause cancer: None of the ingredients
 are listed.
 Chemicals known to cause reproductive toxicity: None of
 the ingredients are listed.
 Product related hazard informations: The product has been
 classified and marked in accordance with directives on
 hazardous materials.
 Hazard symbols: F Highly flammable
 Risk phrases: 11 Highly flammable.
 Safety phrases:
 2 Keep out of the reach of children.
 7/9 Keep container tightly closed and in a well-
 ventilated place.
 16 Keep away from sources of ignition - No smoking.
 29 Do not empty into drains.
 33 Take precautionary measures against static
 discharges.
 43 In case of fire, use sand, carbon dioxide or powdered
 extinguishing agent. Never use water.
 46 If swallowed, seek medical advice immediately and
 show this container or label.
 51 Use only in well-ventilated areas.

Merial

IVOMEC POUR-ON FOR CATTLE

Water hazard class:

Water hazard class 1 (Self-assessment): slightly
hazardous for water.

16 Other information

This information is based on our present knowledge.
However, this shall not constitute a guarantee for any
specific product features and shall not establish a legally
valid contractual relationship.

Contact: MSDS Coordinator, 706-552-2739, msds@merial.com

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES: although
preparer and owner have taken reasonable care in the
preparation of this document, we extend no warranties and
make no representation as to the accuracy or completeness
of the information contained herein, and assume no
responsibility regarding the suitability of this
information for the user's intended purposes or for the
consequences of its use. Each user should make a
determination as to the suitability of the information for
their particular purpose(s). A request has been made to the
manufacturer to approve the contents of this material
safety data sheet. Upon receipt of any changes a new MSDS
will be made available.

COMPAS Code: 45920010



Material Safety Data Sheet
ISO/DIS 11014 / 29 CFR 1910.1200 / ANSI Z400.1

Printing date 10/13/2010

Reviewed on 10/13/2010

1 Identification of substance

· **Product details**

· **Trade name:** IVOMEC POUR-ON FOR CATTLE

· **Manufacturer/Supplier:**

Merial Limited
3239 Satellite Blvd.
Duluth, Ga. 30096-4640
1-888-MERIAL 1 (1-888-637-4251)

· **Emergency information:**





Spill Information:

CHEMTREC® 1-800-424-9300
CHEMTREC® International 1+703-527-3887
International calls 011+703-527-3887
Reverse charges.

2 Composition/Data on components

· **Chemical characterization**

· **Components:**

67-63-0	Isopropanol	 Xi,  F; R 11-36-67	80.0%
70288-86-7	Ivermectin Comp. B1a Comp. B1b	 T,  N; R 20/21-25-50	0.5%
	Non hazardous inert ingredients		19.5 %

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

3 Hazards identification

· **Hazard description:**



Irritant
Highly flammable

· **Information pertaining to particular dangers for man and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Has a narcotizing effect.

Highly flammable.

Irritating to eyes.

Vapours may cause drowsiness and dizziness

· **Classification system:**

The classification was made according to the latest editions of international substances lists, and from company and regulatory data.

USA

Material Safety Data Sheet

ISO/DIS 11014 / 29 CFR 1910.1200 / ANSI Z400.1

Printing date 10/13/2010

Reviewed on 10/13/2010

Trade name: **IVOMEK POUR-ON FOR CATTLE**· **NFPA ratings (scale 0 - 4)**

Health = 1

Fire = 4

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 1

Fire = 4

Reactivity = 0

4 First aid measures

- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation occurs, consult a doctor.
- **After eye contact:**
Rinse opened eye for a minimum of 15 minutes under running water. Get medical attention immediately.
- **After swallowing:** Do not induce vomiting; immediately call for medical help.
- **After self injection**
- **Information for doctor.** In case of symptomatic effect provide treatment to maintain life functions.

5 Fire fighting measures

- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Protective equipment:** Self-contained breathing apparatus and full protective equipment.

6 Accidental release measures

- **Person-related safety precautions:**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
- **Measures for environmental protection:** Do not allow product to reach sewage system or any water course.
- **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to section 13.
Ensure adequate ventilation.

7 Handling and storage

- **Handling:**
- **Information for safe handling:**
Store in cool, dry place in tightly closed containers.
Handle with care. Avoid jolting and impact.
Use only in well ventilated areas.

USA

Material Safety Data Sheet

ISO/DIS 11014 / 29 CFR 1910.1200 / ANSI Z400.1

Printing date 10/13/2010

Reviewed on 10/13/2010

Trade name: IVOMEK POUR-ON FOR CATTLE

- **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

- **Storage:**

- **Requirements to be met by storerooms and receptacles:** Store in a cool location.

- **Information about storage in one common storage facility:** Not required.

- **Further information about storage conditions:**

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

Store in a cool, dry, well ventilated place.

- **Recommended storage temperature:** < 30°C (86°F)

8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Components with limit values that require monitoring at the workplace:**

67-63-0 Isopropanol

PEL (USA)	980 mg/m ³ , 400 ppm
REL (USA)	Short-term value: 1225 mg/m ³ , 500 ppm Long-term value: 980 mg/m ³ , 400 ppm
TLV (USA)	Short-term value: 984 mg/m ³ , 400 ppm Long-term value: 492 mg/m ³ , 200 ppm
MAK (Germany)	500 mg/m ³ , 200 ppm Y; DFG

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

Do not eat, drink, smoke or inhale.

Do not store food in the working area.

- **Breathing equipment:** Use suitable respiratory protective device when aerosol or mist is formed.

- **Protection of hands:** Not required under normal conditions of use.

- **Eye protection:**



Safety goggles.

9 Physical and chemical properties

- **General Information**

Form:	Liquid
Color:	Blue
Odor:	Like alcohol

USA

Material Safety Data Sheet

ISO/DIS 11014 / 29 CFR 1910.1200 / ANSI Z400.1

Printing date 10/13/2010

Reviewed on 10/13/2010

Trade name: **IVOMEK POUR-ON FOR CATTLE**

- **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 82.5°C (181°F)

- **Flash point:** 14°C (57°F)

- **Ignition temperature:** 425.0°C (797°F)

- **Auto igniting:** Product is not self-igniting.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

- **Explosion limits:**

Lower: 2.0 Vol %

Upper: 12.0 Vol %

- **Vapor pressure at 20°C (68°F):** 43.0 hPa (32 mm Hg)

- **Specific gravity at 20°C (68°F):** 0 g/cm³

- **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix.

Organic solvents: 80.0 %

Solids content: 0.5 %

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

- **Materials to be avoided:**

- **Dangerous reactions**

Reacts with acetaldehyde, chlorine, ethylene oxide, hypochlorous acid, isocyanates, phosgene, oleum, perchloric acid, and strong oxidizing agents.

- **Dangerous products of decomposition:** No dangerous decomposition products known.

11 Toxicological information

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

67-63-0 Isopropanol

Oral	LD50	4570 mg/kg (rat)
Dermal	LD50	13400 mg/kg (rabbit)
Inhalation	LC50/4 h	30 mg/l (rat)

**70288-86-7 Ivermectin Comp. B1a
Comp. B1b**

Oral	LD Oral	>15 mg/kg (adult human)
	LD50	~80 mg/kg (dog)
		25 mg/kg (mouse)
		50 mg/kg (rat)
		>24 mg/kg (Rhesus monkey)

USA

Material Safety Data Sheet

ISO/DIS 11014 / 29 CFR 1910.1200 / ANSI Z400.1

Printing date 10/13/2010

Reviewed on 10/13/2010

Trade name: IVOMEK POUR-ON FOR CATTLE

Dermal	LD50	406 mg/kg (rabbit) >660 mg/kg (rat)
Inhalation	LC50/4h	>0.4 mg/kg (rat)
	LD Subcutaneous	>1.6 mg/kg (adult human)
	LD50 Intraperitoneal	55 mg/kg (rat)
	LD50 Subcutaneous	~10 mg/kg (juvenile dog)

· **Primary irritant effect:**

· **on the skin:** No irritating effect known.

· **on the eye:** Irritating effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

12 Ecological information

· **Ecotoxicological effects:**

· **Aquatic toxicity:**

70288-86-7 Ivermectin Comp. B1a

Comp. B1b

LC50 / 48 hrs 0.025 ppb (Daphnia magna)

LC50/96 hours 0.3 ug/l (Rainbow Trout)

13 Disposal considerations

· **Product:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **DOT regulations:**



· **Hazard class:**

3

· **Identification number:**

UN1219

· **Packing group:**

II

· **Proper shipping name (technical name):** ISOPROPANOL (ISOPROPYL ALCOHOL)

USA

Material Safety Data Sheet
ISO/DIS 11014 / 29 CFR 1910.1200 / ANSI Z400.1

Printing date 10/13/2010

Reviewed on 10/13/2010

Trade name: IVOMECH POUR-ON FOR CATTLE

· **Label** 3

· **Land transport ADR/RID (cross-border):**



· **ADR/RID class:** 3 Flammable liquids
 · **Danger code (Kemler):** 33
 · **UN-Number:** 1219
 · **Packaging group:** II
 · **Proper shipping name:** 1263 PAINT

· **Maritime transport IMDG:**



· **IMDG Class:** 3
 · **UN Number:** 1219
 · **Label** 3
 · **Packaging group:** II
 · **EMS Number:** F-E,S-E
 · **Marine pollutant:** Yes
 · **Proper shipping name:** ISOPROPANOL (ISOPROPYL ALCOHOL)

· **Air transport ICAO-TI and IATA-DGR:**



· **ICAO/IATA Class:** 3
 · **UN/ID Number:** 1219
 · **Label** 3
 · **Packing group:** II
 · **Proper shipping name:** ISOPROPANOL (ISOPROPYL ALCOHOL)

15 Regulations

· **SARA**

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

67-63-0 Isopropanol

· **TSCA (Toxic Substances Control Act):**

67-63-0 Isopropanol

· **CA Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

USA

Material Safety Data Sheet

ISO/DIS 11014 / 29 CFR 1910.1200 / ANSI Z400.1

Printing date 10/13/2010

Reviewed on 10/13/2010

Trade name: IVOMEK POUR-ON FOR CATTLE
· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenesis potential categories
· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· IARC (International Agency for Research on Cancer)

67-63-0 Isopropanol

3

· NTP (National Toxicology Program)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· MAK (German Maximum Workplace Concentration)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

· Product related hazard informations:
· Hazard symbols:

Irritant

Highly flammable

· Risk phrases:

Highly flammable.

Irritating to eyes.

Vapours may cause drowsiness and dizziness

· Safety phrases:

Keep out of the reach of children.

Keep container tightly closed and in a well-ventilated place.

Keep away from sources of ignition - No smoking.

Do not breathe gas/fumes/vapour/spray.

Avoid contact with skin and eyes.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point

Take precautionary measures against static discharges.

In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.

If swallowed, seek medical advice immediately and show this container or label.

This material and its container must be disposed of as hazardous waste.

If swallowed, rinse mouth with water (only if the person is conscious)

· Water hazard class: Water hazard class 2 (Self-assessment): hazardous for water.

USA

Material Safety Data Sheet
ISO/DIS 11014 / 29 CFR 1910.1200 / ANSI Z400.1

Printing date 10/13/2010

Reviewed on 10/13/2010

Trade name: IVOMEK POUR-ON FOR CATTLE

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Contact:** MSDS Coordinator, msds@merial.com

USA

MATERIAL SAFETY DATA SHEET



IVOMEC® Pour-On for CATTLE

Version: 3

Issue Date: 19 January 2011

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SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Recommended use: For the treatment and control of ivermectin-sensitive gastrointestinal roundworms (including inhibited *Ostertagia ostertagi*), lungworm, eyeworm (*Thelazia* spp.), sucking and biting lice and sarcoptic and chorioptic mange mites, buffalo fly (*Haematobia irritans exigua*) and cattle tick (*Boophilus microplus*) in cattle, and for the treatment and control of gastrointestinal roundworms and lungworm of red deer.

Supplier name: Merial Australia Pty Ltd
Address: Level 6, 79 George Street
Parramatta NSW 2150

Telephone number (toll-free): 1800 808 691

All hours emergency phone number - Poisons Information Centre 131126 anywhere in Australia

SECTION 2 HAZARDS IDENTIFICATION

Classified as hazardous according to National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(1999)].

ADG Code: Dangerous Goods Class 3/PGII.

Risk phrase(s) (Hazard): HIGHLY FLAMMABLE (R11)
HARMFUL IF SWALLOWED (R22)
HARMFUL BY INHALATION AND IN CONTACT WITH SKIN (R20/21)
IRRITATING TO EYES (R36)
VERY TOXIC TO AQUATIC ORGANISMS (R50)

Safety phrase(s): KEEP OUT OF THE REACH OF CHILDREN (S2)
(Precautionary statements) KEEP CONTAINER TIGHTLY CLOSED AND IN A WELL-VENTILATED PLACE (S7/9)
KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING (S16)
AVOID CONTACT WITH SKIN OR EYES (S24/25)
KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS. (S13)
WHEN USING, DO NOT EAT OR DRINK (S20)
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND CONTACT A DOCTOR OR POISONS INFORMATION CENTRE (S26).
AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER. (S28)
DO NOT EMPTY INTO DRAINS (S29)
TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGES (S33)
IF SWALLOWED, SEEK MEDICAL ADVICE IMMEDIATELY AND SHOW THE CONTAINER OR LABEL. (S46)
IF SWALLOWED, RINSE THE MOUTH WITH WATER (ONLY IF PERSON IS CONSCIOUS). (S64)
USE ONLY IN A WELL VENTILATED AREA. (S51)

NOHSC CLASSIFICATION: HARMFUL Xn

SUSDP CLASSIFICATION: POISONS SCHEDULE: 5

ADG CODE CLASSIFICATION: Dangerous Goods Class 3 / PGII

UN No.:1219

LOCAL EFFECTS:

TARGET ORGANS: See below.

INHALATION: As the product is a liquid, this is not a likely route of entry. Unlikely to be harmful at the low concentration of active ingredient.

SKIN CONTACT: May be irritating on prolonged or frequent contact. Limited skin absorption may occur. Less than 1% of closely related abamectin was absorbed through the skin of rhesus monkeys from emulsifiable concentrate or ethanol solution.



IVOMEC® Pour-On for CATTLE

Version: 3
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EYE CONTACT: Irritating.
INGESTION: Harmful. May cause dilated pupils (mydriasis), in-coordination, drowsiness, slow breathing, nausea, vomiting, tachycardia, somnolence, tremors and blood pressure variations. No toxic effects of ivermectin reported in humans dosed orally up to 2000µg/kg bodyweight. Ivermectin can be excreted in milk.
CHRONIC EFFECTS: Not sensitising. In animal studies, at doses toxic to the mother, **pure ivermectin** is a reproductive toxin in mice and rats, however, in rabbits, ivermectin is foetotoxic at doses not toxic to the mother. Rats exposed *in utero*, through lactation and for an additional 3 months, showed signs of intravascular haemolysis.
CARCINOGEN STATUS: Not classified by NOHSC, NTP or IARC

SECTION 3

COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS No.	Content %	Classification	Risk phrase
Ivermectin	70228-86-7	0.5	T Toxic	R 20/21, 25, 50
Solvent	confidential	<80	not classified	-
Isopropanol	67-63-0	<20	not classified	(R11)
Antioxidant	confidential	< 0.1	not classified	-

SECTION 4

FIRST AID MEASURES

ADVICE: For advice, contact Poisons Information Centre (Phone 131126 anywhere in Australia), or call a doctor at once.

INHALATION: If vapour or mist inhaled, remove from contaminated area. If adverse effects occur, contact a doctor and show this MSDS.

SKIN CONTACT: If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

EYE CONTACT: If in eyes, hold eyelids apart and flush the eye continuously with running water until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.

INGESTION: If swallowed urgent hospital treatment is likely to be needed. Follow instruction of Poisons Information Centre. Medical observation for delayed symptoms needs to be carried out for up to 48 hours.
Medical conditions aggravated by exposure - none known.
Treatment is symptomatic.

PHARMACOLOGY: Ivermectin is believed to bind to glutamate-gated chloride ion channels in patients with potentially toxic ivermectin exposure avoid drugs that also interact with other ligand-gated chloride channels, including those that enhance GABA activity (barbiturates, benzodiazepines, valproic acid).

SECTION 5

FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Highly Flammable solvent .

EXTINGUISHING MEDIA: Water spray/fog, dry chemical or CO₂.

FIRE FIGHTING: Do not use water jet.

Special advice in case of fire: Emergency workers should wear full protective equipment and supplied-air breathing apparatus. Toxic or irritant gases, vapours or particulates may be generated in a fire. Spray water on containers to cool them. Contain contaminated fire-fighting water.

Hazardous products of combustion: Oxides of carbon and unidentified pyrogenic substances.



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SECTION 6 ACCIDENTAL RELEASE MEASURES

Remove all sources of ignition. If spill is of significant quantity, move non-essential persons away. Put on the protective equipment recommended in Section 8. Seal leak if safe to do so and place leaking receptacles in an over-bin. Contain spill with absorbent material such as dry sand or kitty litter. Do not allow liquid to enter drains or sewer. Sweep up used absorbent and pack in properly labelled container for disposal. To cleanse the contaminated area, wet down contaminated area with a small amount of water, cover again with absorbent, sweep up used absorbent and place in labelled container. Consult waste authority regarding disposal.

OCCUPATIONAL RELEASE: As for accidental release. Wear impervious gloves and eye protection to deal with a large spill.

SECTION 7 HANDLING AND STORAGE

Poisonous if swallowed. Will irritate the eyes and skin. Avoid contact with the eyes, skin and clothing. If clothing becomes contaminated with product, remove clothing and launder. If product is on skin, immediately wash area with soap and water. If product is in eyes, wash it out immediately with water. After use and before eating, drinking or smoking, wash hands thoroughly with soap and water. After each day's use, wash contaminated clothing.

Classified as Dangerous Goods of Class 3 (flammable). Store away from oxidising agents. Do not store with food. Store in original container below 30 deg.C. Protect from light.

Ventilation: Use only in a well ventilated space.

Sources of ignition: Do not open or use within 8m of a source of ignition.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

No ingredients that require workplace atmosphere monitoring have been identified by the manufacturer.

EXPOSURE LIMITS: NOHSC TWA = 983 mg/cu.m (isopropanol)

NOHSC STEL= 1230 mg/cu.m (isopropanol)

No exposure limits have been established by NOHSC, however, a TWA of not more than 0.2 mg/cu.m of Ivermectin active ingredient is recommended by the manufacturer

The Time Weighted Average (TWA) is the concentration of the substance in the worker's breathing zone, exposure to which over 8-hour days, 5-day weeks over a working lifetime, should not cause any undue discomfort or health impairment to most workers. The Short Term Exposure Limit (STEL), means a 15 minute TWA exposure which should not be exceeded and should not be repeated within 60 minutes or more than four times per day.

Exposure Controls / Industrial hygiene:

VENTILATION: Good ventilation for normal use.

RESPIRATOR: Not required for normal use.

EYE PROTECTION: Not required for normal use.

SKIN PROTECTION: Not required for normal use.

Personal Protective Equipment for cleaning-up a significant spill:

EYE PROTECTION: Use eye protection complying with AS 1336 / 1337.

SKIN PROTECTION: Wear impervious gloves such as neoprene rubber or PVC-coated cotton gloves complying with AS/NZS 2161.2., overalls and impervious footwear. Wear a respirator if a mist or aerosol is formed from a large spill.



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SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Blue liquid.
Odour.	Alcoholic
pH.	Not relevant
Boiling point/range.	82.5 deg.C
Freezing Point	Not determined
Vapour pressure:	43 hPa @ 20 deg.C
Solubility in water	Poorly miscible (Ivermectin ingredient solubility = 4 mg/L)
Specific gravity or density.	Not determined
Flash point	14 deg.C
Autoignition temperature	425 deg.C
Viscosity.	Not determined
Octanol/water partition coefficient.	log Po/w = 5.4 (Ivermectin)
Reactivity	Not an oxidising agent.
Burning characteristics.	Flammable.
Incompatible materials.	Strong oxidizing agents or peroxide formers.

SECTION 10 STABILITY & REACTIVITY

Thermal decomposition:	Not expected at normal temperatures.
Hazardous decomposition products:	Products of photodegradation have not been identified.
Dangerous reactions:	None known.
Reactivity:	Stable but readily oxidised by oxidising agents such as pool and spa chlorine, permanganates, chlorates and may catch fire in contact with them.
Conditions to avoid:	Contact with any oxidising agent, strong acids and strong alkali. Incompatible with oxidising agents.
Hazardous decomposition:	No significant decomposition expected at normal temperatures.
Polymerisation:	No hazardous polymerisation will occur.



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SECTION 11 TOXICOLOGICAL INFORMATION

Health effects from the likely routes of exposure:

	Product estimate	Ivermectin active ingredient
LD50 acute oral (rat):	10000 mg/kg	50 mg/kg
LD50 acute dermal (rat):	>100,000 mg/kg	>660 mg/kg
LD50 acute dermal (rabbit):	90,000 mg/kg	406 mg/kg
Inhalation LC50/4 hr (rat):	>1000 mg/L	5.11 mg/L
Skin irritation (rabbit):	Not an irritant	Skin irritant
Eye irritation (rabbit):	Eye irritant	Eye irritant
Sensitisation (guinea pig):	Not a sensitising agent	Not a sensitising agent
Genotoxicity	Not genotoxic	Not genotoxic

Local effects:

Target organs:

Hazardous ingredients:

Eyes,

Ivermectin R-PHRASES = 20/21, 25, 50

Harmful by inhalation and in contact with skin. Toxic if swallowed.

Not toxic in humans up to 2000 µg/kg bodyweight orally.

Negative in Ames test. Negative in mouse lymphoma mutation assay. Does not induce unscheduled DNA synthesis in human fibroblast cell culture.

No data.

Subacute to chronic toxicity:

Additional toxicological information:

Ivermectin is believed to bind to glutamate-gated chloride ion channels; avoid drugs that also interact with other ligand-gated chloride channels, including those which enhance GABA activity in patients with potentially toxic Ivermectin exposure (e.g. barbiturates, benzodiazepines, valproic acid). Reproductive toxicant in rabbits and mice.

The following symptoms may occur:

Overexposure to ivermectin may cause dilated pupils, in-coordination, drowsiness, slow breathing, tremors, vomiting, anorexia, muscle tremors, headache and dizziness.

SECTION 12 ECOLOGICAL INFORMATION

The following Information applies to the **Ivermectin** active ingredient.

Environmental fate: Ivermectin photodegrades rapidly in the environment and is metabolized in the soil.

Water solubility is limited and it binds to soil very tightly. It does not bioconcentrate in fish and is not taken up from soil into plants. Does not bioaccumulate.

TOXICITY TO FISH:

Ivermectin active ingredient:

LC50 = 0.3 µg/L - Rainbow Trout - very toxic to fish.

TOXICITY TO DAPHNIA:

LC50 48 hr = 0.025 µg/L (*D. magna*) - very toxic to Daphnia

TOXICITY TO ALGA:

Not available

TOXICITY TO BACTERIA:

Not available

READY BIODEGRADABILITY:

Not available



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SECTION 13

DISPOSAL CONSIDERATIONS

Special precautions:

As the active ingredient is highly toxic to aquatic organisms, great care is needed to ensure that the product does not reach drains or waterways.

Method of disposal:

Triple or (preferably) pressure rinse the empty container. Dispose of waste product/rinsate in a disposal pit specifically marked and set up for this purpose clear of waterways, vegetation and roots. Return clean container for recycling where this is an option or for disposal at a landfill authorised to accept that waste. If neither of these options are available, bury the container below 500 mm in the disposal pit specifically marked and set up for this purpose clear of waterways, vegetation and roots. Empty containers should not be burned. Contaminated water can be treated by activated carbon absorption.

For the disposal of the clean-up materials from a significant spill consult waste authority.

SECTION 14

TRANSPORT INFORMATION

Surface transport:

UN Number	1219
UN Proper Shipping Name	ISOPROPANOL
Class and subsidiary risk	3
Packing Group	II
Special precautions for user	None
Hazchem Code	2[Y]E
Labelling:	DG Labelling required for containers/shippers > 150 mL volume
Transport as :	Class 3 DG
Incompatible stowage:	Foodstuffs

SECTION 15

REGULATORY INFORMATION

This product is registered with the Australian Pesticides & Veterinary Medicines Authority (APVMA Approval No. 45721)

SECTION 16

OTHER INFORMATION

Do not allow product to reach ground water, water course or sewage system. Poisonous to fish and some aquatic invertebrates.

IVOMEC is a registered trademark of Merial Limited.

ACRONYMS USED IN THIS MSDS

SUSDP	Standard for the Uniform scheduling of Drugs and Poisons
ADG Code	Australian Dangerous Goods (DG) Code
CAS No.	Chemical Abstracts number
UN No.	United Nations identifying number for DG
R-phrases	Risk phrases identifying main hazard of ingredient or product
S-phrases	Safety phrases identifying main safety measures to be used
NOHSC	National Occupational; Health and Safety Commission
NTP	National Toxicology Programme (USA)
IARC	International Agency for Research on Cancer

SUPPLIER STATEMENT: *The product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with legal regulations.. The information in this MSDS is based on the level of knowledge at the time of preparation and relates to the product in the state in which it is supplied. The information describes the product from the safety point of view and is not intended to guarantee any particular properties and shall not establish a legally valid contractual relationship*