SAFETY DATA SHEET

Alliance

Section 1: Identification of the Substance and Supplier

Product name	**Alliance**
Recommended use	Oral combination drench for the management of internal parasites in sheep & cattle
Company details	**Schering-Plough Animal Health Ltd** **33 Whakatiki Street, Upper Hutt 5018, New Zealand** **Phone: 0800 800 543 Fax: 0800 808 100** **Website: www.coopersonline.co.nz** **Hours: 8 am – 5 pm, Mon – Fri**
Emergency telephone	**0800 764 766 (0800 POISON) 24 hours human health** **0800 243 622 (0800 CHEMCALL) 24 hours**
Date of preparation	April 2019

Section 2: Hazards Identification

Hazard classifications

6.1D: Acute toxicant (oral)
6.5B: Contact sensitiser
6.6B: Mutagen
6.8B: Reproductive/Developmental toxicant
6.8C: Reproductive/Developmental toxicant – Via Lactation
6.9A: Target organ systemic toxicant
9.1A: Aquatic ecotoxicant
9.2C: Soil ecotoxicant
9.3C: Vertebrate ecotoxicant
9.4A: Invertebrate ecotoxicant

GHS Pictogram:

Signal word

Danger

Hazard statement

H302: Harmful if swallowed.
H317: May cause an allergic skin reaction.
H341: Suspected of causing genetic defects
H361: Suspected of damaging fertility or the unborn child from repeated oral exposure.
H362: May cause harm to breast-fed children from repeated oral exposure.
H372: Causes damage to the nervous, cardiovascular, liver, blood and haematopoietic systems through prolonged or repeated oral exposure.
H410: Very toxic to aquatic life with long lasting effects.
H423: Harmful to the soil environment.
H433: Harmful to terrestrial vertebrates.
H441: Very toxic to terrestrial invertebrates.

Prevention statement

P102: Keep out of reach of children.
P103: Read label before use.
P202: Do not handle until all safety precautions have been read and understood.
P260: Do not breathe mist.
P263: Avoid contact during pregnancy/while nursing.
P264: Wash 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.

P273: Avoid release to the environment.
P280: Wear protective gloves.
P281: Use personal protective equipment as required.

Response statement

P101: If medical advice is needed, have product container or label at hand.
P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P308 + P313: IF exposed or concerned: Get medical advice/ attention.
P314: Get medical advice/attention if you feel unwell.
P321: See first aid instruction on the label of the product.
P330: Rinse mouth.
P333 + P313: If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364: Take of contaminated clothing and wash before reuse.
P391: Collect spillage.

Storage

P405: Store locked up.

Disposal

P501: Dispose of product, packaging and waste at an approved landfill or other approved facility.

Section 3: Composition/Information on Ingredients

Chemical name	CAS number	Concentration
Abamectin	71751-41-2	0.2%
Levamisole hydrochloride	16595-80-5	8%
Oxfendazole	53716-50-0	4.53%
Disodium cobalt EDTA	15137-09-4	<10%
Sodium selenate	13410-01-0	<1%
Citric acid	77-92-9	<10%
Benzyl alcohol	100-51-6	<10%

Section 4: First Aid Measures

Necessary first aid measures

SKIN CONTACT While wearing protective gloves, carefully remove any contaminated clothing, including shoes, and wash skin thoroughly with soap and water. If irritation or symptoms occur or persist, consult a doctor.

EYE CONTACT Immediately rinse eyes thoroughly with plenty of water. If wearing contact lenses, remove only after initial rinse, and continue rinsing eyes for at least 15 minutes. If irritation occurs or persists, consult a doctor.

INGESTION Rinse mouth and drink a glass of water. Do not induce vomiting unless under the direction of a qualified medical professional or National Poisons Centre. If symptoms persist, consult a doctor.

INHALATION Remove to fresh air and provide oxygen if necessary. If any trouble breathing, get immediate medical attention. Administer artificial respiration if breathing has ceased. If irritation or symptoms occur or persist, consult a doctor.

Required instructions

For advice contact the National Poisons Centre 0800 POISON (0800 764 766) or a doctor.

Notes for medical personnel	The information presented below pertains to the following individual ingredients, and not to the mixture(s). Only information about the ingredients that are expected to contribute significantly to the potential health hazard profile of the formulation(s) are presented: Levamisole is an anthelmintic and immunostimulant. Acute exposure to levamisole may cause nausea, vomiting, diarrhoea, abdominal pain, dizziness, or headache. Chronic exposure may cause hypersensitivity reactions including fever, flu-like syndrome, arthralgia, muscle pain, skin rashes, or cutaneous vasculitis, CNS effects including headache, insomnia, dizziness, or convulsions, haematological abnormalities including agranolucytosis, leucopoenia, or thrombocytopenia, or gastrointestinal effects including abnormal taste in the mouth. Oxfendazole is not-irritating, not-sensitizing, and practically not-toxic acutely. Based on animal studies, oxfendazole may cause liver, bone marrow, testes, gastrointestinal tract, and blood cell effects following chronic exposure. All selenium salts can produce toxicity by ingestion, inhalation, and dermal absorption; however, acute poisonings with selenium and its salts are rare.
Workplace facilities	Emergency showers and eyewashes may be warranted depending on quantity and type of use.

Section 5: Fire Fighting Measures

Type of hazard	Not classified as flammable
Fire hazard properties	No information available
Regulatory requirements	No information available
Extinguishing media and methods	Water, carbon dioxide (CO_2), foam, or dry chemical.
Hazchem code	3Z (Contain spillage)
Recommended protective clothing	Wear full protective clothing and self-contained breathing apparatus (SCBA).

Section 6: Accidental Release Measures

Personal Precautions	Avoid contact with skin, eyes and clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Environmental Precautions	Prevent spilled material from flowing onto adjacent land or into streams, ponds, or lakes. Avoid release to the environment.
Emergency procedures	Wear chemical resistant gloves and overalls, facemask or goggles. Prevent further spillage. Adsorb spilled product and place in sealable container for disposal. Wash down affected area with water plus detergent. Absorb and collect washings and place in the same sealable container for disposal. Seek advice from the local authority regarding disposal. Avoid contamination of any water source or soil with product or empty container.

Section 7: Handling and Storage

Precautions for safe handling	Avoid contact with skin, eyes, and mucosa. Keep containers adequately sealed during material transfer, transport, or when not in use. See Section 8 (Exposure Controls) for additional guidance.
Regulatory requirements	Signage required where quantities greater than 100L are present. Emergency Plan required where quantities greater than 100L are present.
Handling practices	Avoid contact with skin. Keep containers adequately sealed during material transfer, transport, or when not in use.
Certified handlers	Not required.
Conditions for safe storage	Store in original container in a cool, dry, ventilated place away from direct heat or direct sunlight. Keep container sealed when not in use. Keep out of reach of children.
Store site requirements	Store in a cool, dry, well ventilated area, at room temperature (5°C to 30 °C).
Packaging	PG III

Section 8: Exposure Control/Personal Protection

Occupational exposure limits	No WES is set for this substance at this time.
Application in the workplace	Ensure adequate ventilation. Keep container sealed when not in use.
Exposure standards outside the workplace	No TEL is set for this substance at this time. No EEL is set for this substance at this time.
Personal protection	Wear chemical resistant gloves, facemask or goggles.
Engineering controls	The health hazard risks of handling this material are dependent on many factors, including physical form, duration and frequency of process or task, and effectiveness of engineering controls. Site-specific risk assessments should be conducted to determine the feasibility and the appropriateness of all exposure control measures. Exposure controls for normal operating or routine procedures follow a tiered strategy. Engineering controls are the preferred means of long-term or permanent exposure control. If engineering controls are not feasible, appropriate use of personal protective equipment (PPE) may be considered as alternative control measures. Exposure controls for non-routine operations must be evaluated and addressed as part of the site-specific risk assessment.

Section 9: Physical and Chemical Properties

Appearance	Pale purple liquid
Odour	No information available
Odour threshhold	No information available
pH	No information available
Melting point/freezing point	No information available
Initial boiling point and boiling range	Approx 100°C
Flash point	No information available
Flammability (solid, gas)	No information available
Upper/lower flammability or explosive limits	No information available
Vapour pressure	No information available
Vapour density	No information available
Relative density	1.07 at 20°C
Solubility (ies)	Water: Miscible
Partition coefficient: n-octanol/water	No information available
Auto-ignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available

Section 10: Stability and Reactivity

Stability of the substance	Stable under normal conditions.
Conditions to avoid	Avoid high temperatures.
Material to avoid	Avoid food products.
Hazardous decomposition products	Carbon oxides (COx), Sulphur oxides (SOx), and Nitrogen oxides (NOx).

Section 11: Toxicological Information

Effects for individual ingredients only

Acute toxicity	(Oral) Abamectin: (Rat) LD50- 8.7-12.8 mg/kg [EPA NZ] Levamisole: (Rat/Mouse)-LD50 200 mg/kg [EPA NZ] Sodium selenate: LD50-25 mg/kg/bw [INCLASS] Citric acid: (Mouse)-LD50 5000 mg/kg [IUCLID 2000] Benzyl alcohol: (Rabbit)-LD50 1040 mg/kg bw [EPA NZ] (Dermal) Citric Acid: Irritating Benzyl alcohol: LD50-(Rabbit) 2000 mg/kg bw [EPA NZ] (Inhalation) Disodium cobalt EDTA: Respiratory effects seen at 2.4 mg/m3 in female Guinea-pigs (LOAEL; increased lung weight, increased retention of lavage fluid). [ATSDR] Sodium selenate: Toxic by inhalation [INCLASS] Citric acid: Irritating to respiratory system [EPA NZ]
Aspiration hazard	No information available
Respiratory irritation	Disodium cobalt EDTA: Causes respiratory tract irritation, may cause asthma and shortness of breath.
Skin corrosion/irritation	Disodium cobalt EDTA: Mildly irritating to the skin [EPA NZ] Citric acid: Skin irritation. [EPA NZ]
Serious eye damage/ irritation	Disodium cobalt EDTA: (Rabbit) Cobalt metal introduced in to rabbit eyes has caused a severe reaction, with abscess involving lens, ciliary body, vitreous humor and retina. [EPA NZ] Sodium selenate: Irritating to the eye [EPA NZ] Citric acid: (Rabbit) Highly irritating to the eye [EPA NZ] Benzyl alcohol: (Rabbit) Moderately irritating to the eye [EPA NZ]
Respiratory or skin sensitisation	Disodium cobalt EDTA: Respiratory sensitisers, Contact sensitisers [EPA NZ] Benzyl alcohol: (Human) Contact sensitisers [EPA NZ]
Germ cell mutagenicity	Levamisole: Induced chromosome gaps and breaks in human lymphocytes in vitro and in vivo after volunteers were given 2 mg/kg. No chromosomal damage occurred in mice given 2.5 mg/kg subcutaneously. [EPA NZ] Sodium selenate: Fed by gavaging to age-matched male Swiss albino mice and observed after 24 h following a colchicine-fixative-air drying-Giemsa schedule, were found to induce chromosome breaks and spindle disturbances in bone marrow cells. The four concentrations used were fractions of LD50 and the effects were directly proportionate to the concentration of the chemical [EPA NZ]
Carcinogenicity	Disodium cobalt EDTA: Cobalt and cobalt compounds are possibly carcinogenic to humans. [EPA NZ]
Reproductive toxicity	Abamectin: Produce toxic human reproductive or developmental effects on or via lactation [EPA NZ] Oxfendazole: Suspected human reproductive or developmental toxicants [EPA NZ] Disodium cobalt EDTA: Cobalt was embryotoxic to rat fetuses when it was admin during the entire gestation (dose of 0.05 mg/kg). The dose of 0.005 mg/kg was

	non-toxic to females, however the progeny of treated females had a reduced wt. [EPA NZ]
Specific organ toxicity	Abamectin: (Oral)- Neurotoxicity (nervous system) [EPA NZ] Levamisole: EndPoint: LOAEL-Primary Organ: Blood and the Hematopoietic system-The commonest and most severe effect induced by levamisole is agranulacytosis. This can be fatal, particularly if infection occurs but it is reversible. It occurs at relatively low doses even when given on non-consecutive days. No NOEL can be identified and if one exists it probably is extremely small. Consequently all MRL of 0.01 mg/kg is recommended. ADI of 0-6 ug/kg based on LOAEL of 1.25 mg/kg/day haemolytic effects in dogs, safety factor of 200. MRLs of 100 ug/kg in muscle, kidney and fat, and 100 ug/kg for liver.Chronic studies in (previously sensitised) dogs showed evidence of haemolytic effects with a LOAEL of 1.25 mg/kg day. [EPA NZ] Oxfendazole: Hepatotoxicity/ Alimentary system (liver) effects were observed in rats and mice. The NOEL was 10 mg/kg in the diet, equal to 0.7 mg/kg/bw/day in males and 0.9 mg/kg/bw/day in females. [EPA NZ] Disodium cobalt EDTA: EndPoint: LOAEL (Oral)-Cardiovascular system (heart/vascular system). (Inhalation)- Animals were exposed to the repeated inhalation of the cobalt metal blend used by the cemented carbide industry: a concentration of 20 mg/m3 of cobalt for 3 years produced hyperplasia of the bronchial epithelium and focal fibrotic lesions of the lungs with developing granulomata; daily inhalation of cobalt metal fume composed of approximately equal parts of cobalt, cobalt oxide, and cobaltic-cobaltous oxide did not elicit these reactions. Guinea-pigs developed acute pneumonitis, often rapidly fatal, from the intratracheal injection of cobalt metal or repeated inhalation of a mixture of 75% tungsten carbide and 25% cobalt. [EPA NZ] Sodium selenate: (Oral)- EndPoint: NOAEL-Primary Organ: Hepatotoxicity (liver) Rats receiving selenium compounds (generally sodium selenite) in their diets show acute, subacute, and chronic pathologic pictures entirely similar to those seen in rats fed poisonous field-grown grain. Rats that received selenium (as sodium selenate) at a dietary level of 100 ppm ate little food and all died in 8-16 days; those receiving 50 ppm all died in 10-97 days. A dietary level of 15 ppm was tolerated for 72 days or more, but food intake was about half of normal. All rats survived a dietary level of 7.5 ppm (about 0.37 mg/kg/day) for 6 months, and their growth was normal. [EPA NZ]
Narcotic effects	No information available

Section 12: Ecological Information

Effects for individual ingredients only

Aquatic	Abamectin: Eastern Oyster (Crassostrea virginica) EC50-48 hr: 430 ppb (= 0.430 mg/l) (Fish)-Rainbow trout Acute: LC50- 96 hr: 3.6 ppb (= 0.0036 mg/l) Chronic: LOEC-0.0093 ppb (=0.0000093 mg/l) (Crustacean)- Daphnia magna Acute: EC50-48 hr: 0.34 ppb (= 0.00034 mg/l) Chronic: NOEC-21 days: 0.03 ppb (= 0.00003 mg/l) [EPA NZ] Oxfendazole: (Daphnia magna) EC50 48-hr 0.52mg/L [EPA NZ] Disodium cobalt EDTA: (Fish) Oncorhynchus mykiss (Rainbow trout,donaldson trout) LC50-96 hr:

	1.406, 0.569 - 3.474 mg/l (Crustacean) Daphnia magna (Water flea) EC50-48 hr: 1.11 mg/l (Algal)- Spirulina platensis (Blue-green algae) EC50-96 hr: 23.8 mg/l [EPA NZ] Sodium selenate: (Crustacean)- Gammarus pseudolimnaeus Scud LC50- 48 hr: 83 ug/l (= 0.083 mg/l) (Algal)-Selenastrum capricornutum Green algae EC50-96 hr: 200 ug/l (= 0.2 mg/l) (Fish)-Pimephales promelas Fathead minnow Acute: LC50-96 hr: 690 ug/l (= 0.69 mg/l) Chronic: NOEC-32 day: 390 ug/l (= 0.39 mg/l) [EPA NZ] Benzyl alcohol: (Fish)-Lepomis macrochirus (Fish, fresh water) LC50-96 hr: 10 mg/l (Crustacean)-Daphnia magna (Water flea) EC50-24 hr: 55 mg/L [EPA NZ]
Terrestrial	Abamectin: (Rat) LD50-Oral: 8.7-12.8mg/kg [EPA NZ] Abamectin: (Bee) LD50: 0.002ug/bee [EPA NZ] Levamisole: (Rat/Mouse) LD50-Oral: 200 mg/kg [EPA NZ] Sodium selenate: Very ecotoxic to terrestrial vertebrates [EPA NZ]
Soil	Abamectin: Very ecotoxic in the soil environment [EPA NZ] Sodium selenate: Effect of Selenic acid, Disodium salt on Medicago sativa Growth Endpoint: 22 day(s) EC20 of 0.1 mg/kg soil (NR: NR) on Measurement: Number of nodules/nodulated plant roots; Response Site: NR Whole Organism Endpoint: 22 day(s) EC20 of 0.1 mg/kg soil (NR: NR) on Measurement: Weight; Response Site: Whole Organism Effect of Selenic acid, Disodium salt on Medicago sativa (Alfalfa) Population Endpoint: 22 day(s) EC20 of 0.1 mg/kg soil (NR: NR) on Measurement: Biomass; Response Site: Root [EPA NZ] Benzyl alcohol: Photobacterium phosphoreum (Bacteria) EC50- 50 mg/l- 5 minute(s) [EPA NZ]

Persistence and degradability	Abamectin: Rapidly Degradable: No-Breakdown in water: Abamectin is rapidly degraded in water. After initial distribution, its half-life in artificial pond water was 4 days. Its half-life in pond sediment was 2 to 4 weeks [145]. It undergoes rapid photodegradation, with a half-life of 12 hours in water [142]. When tested at pH levels common to surface and groundwater Disodium cobalt EDTA: Rapidly Degradable: No Sodium selenate: Rapidly Degradable: No Benzyl alcohol: Rapidly Degradable: Yes- aerobic- predominantly domestic sewage- Degradation: > 90 % after 30 day
Bioaccumulative	Abamectin: No-Bluegill sunfish-28 day BCF=69 Disodium cobalt EDTA: ND Sodium selenate: Yes Daphnia magna -Water flea BCF = 3650 Fresh Water, 96 h, Renewal Conc = 0.89 - 0.99 ug/l Benzyl alcohol: No
Mobility in soil	Abamectin: DT50>30day: yes Sodium selenate: Soil DT 50 > 30 days: ND Benzyl alcohol: Soil DT 50 > 30 days: no
Other adverse effects	No information available

Section 13: Disposal Considerations

Disposal information	**Disposal** Dispose of unused product through AgRecovery Chemicals. Avoid contamination of any water source or the environment with product or empty container. **Container Disposal** Triple rinse empty container, puncture and recycle through AgRecovery. Do NOT burn.
Reference	Current version of NZS 8409 Management of Agrichemicals.

Section 14: Transport Information

UN Number	3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Abamectin & Oxfendazole)
UN dangerous goods class and subsidiary risk	9
UN Packaging Group	PG III
Environmental hazards	Marine pollutant
Special precautions when transporting the substance	

Section 15: Regulatory Information

Regulatory status	HSNO Approval Code: HSR007798 For full listings of controls see www.epa.govt.nz ACVM registration number: A010249 For conditions of registration see www.foodsafety.govt.nz

Section 16: Other Information

Additional information	Alliance is a registered trademark.