

Safety Data Sheet

DATE : 01 : 04 : 2004
 ISSUE No. : 10

NOTE: Access to a copy of this Safety Data Sheet (SDS) via our Website does not constitute the issue of a controlled Copy under EU legislation. To be issued with such a copy please contact Rentokil Initial at the address below by telephone, fax or in writing. In order to confirm the latest version of the SDS for this product see web: www.ri-research.com and click on Technical Information / Product Safety.

REVISION (see box 16)

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

PRODUCT NAME	LIQUID BROMATROL (with Bitrex™)
DESCRIPTION	A blue, rodenticidal, liquid concentrate with no perceptible odour and a bittering additive. For use by professional operators for the control of rats and mice, after appropriate dilution with either water or other suitable bait bases.
COMPANY	Rentokil Initial UK Ltd, Pest Control, Felcourt, East Grinstead, West Sussex RH19 2JY. United Kingdom. Telephone: +44 (0)1342 833022 Facsimile: +44 (0)1342 326229

2 HAZARD IDENTIFICATION

CLASSIFICATION AND DANGER SYMBOL (SUPPLY – USE): In compliance with EC Directive 1999/45.

X_n Harmful R21/22 Harmful in contact with skin and if swallowed.



HARMFUL

ADVERSE PHYSICOCHEMICAL, HUMAN HEALTH AND ENVIRONMENTAL EFFECTS (See also box 11):

Combustion or thermal decomposition may evolve toxic and irritant vapours.
 This product contains an anticoagulant compound. If ingested, symptoms may include nosebleed and bleeding gums. In severe cases there may be bruising, haematomas of the joints and blood present in the faeces and urine.
 Adverse effects on the environment are unlikely, provided that the product is used as intended.

3 COMPOSITION / INFORMATION ON INGREDIENTS

% w/w	COMMON*/CHEMICAL NAME, ELINCS/EINECS AND CAS REGISTRY NO. OF INGREDIENTS	EC 1999/45 CLASSIFICATION
0.1	Bromadiolone* / 3-[3-(4-bromobiphenyl-4-yl)-3-hydroxy-1-phenylpropyl] -4-hydroxycoumarin EINECS : 249-205-9 CAS : 28772-56-7	T+ – Very Toxic : R27/28 : Very toxic in contact with skin and if swallowed. N- Dangerous for the environment : R51/53 : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
>50≤100	Monopropylene glycol* / propane-1,2-diol EINECS : 200-338-0 CAS : 57-55-6	Not classified.
≤2.5	Bitrex™* / denatonium benzoate CAS : 3734-33-6	X _n - Harmful : R20/22 : Harmful in contact with skin and if swallowed. X _i - Irritant : R38 : Irritating to skin. X _i - Irritant : R41 : Risk of serious damage to eyes. Dangerous for the environment : R52/53 : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4 FIRST-AID MEASURES (see also "Adverse effects" in box 2)

INHALATION	Remove patient to fresh air, keep warm and at rest. Apply supportive measures if necessary and seek medical attention.
EYE CONTACT	Rinse affected eye with clean running water, or eyewash solution, for at least 15 minutes holding eyelids well apart. Rinse entire surface and do not allow run-off to contaminate unaffected eye. Seek medical attention.
SKIN CONTACT	Remove and wash contaminated clothing immediately. Wash affected area thoroughly with soap and water. If the patient feels unwell seek medical advice.
INGESTION (SWALLOWING)	Do NOT induce vomiting. If unconscious place in the recovery position and apply supportive measures if necessary. If conscious give patient up to 1 pint/500mL of water to drink. Seek medical attention.
EMERGENCY EQUIPMENT SUGGESTED	Appropriate first-aid equipment should be provided. For the UK this should be in accordance with the Health & Safety (First-Aid) Regulations 1981. See also the Approved Code of Practice "First-aid at Work".
NOTE TO DOCTOR	Further information on all Rentokil Initial formulations is lodged with the National Poisons Information Service in the UK. Telephone +44 (0) 870 600 6266 - 24 hours.

5 FIRE FIGHTING MEASURES

FIRE EXTINGUISHER TYPE	Use foam, water, carbon dioxide or dry powder extinguishers.
SPECIAL FIRE-FIGHTING PROCEDURES	Wear self-contained breathing apparatus and suitable personal protective equipment.
SPECIAL EXPOSURE HAZARDS	Combustion or thermal decomposition may evolve toxic and irritant vapours.

6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS (See also box 8)	Wear suitable protective clothing and gloves.
PROCEDURE (See also box 13)	Contain and absorb spill with an inert material such as sand, earth or sawdust. Transfer to a suitable container for subsequent disposal. DO NOT contaminate watercourses or ground.

7 HANDLING AND STORAGE

HANDLING	Avoid all contact by mouth. Wash hands and exposed skin before meals and after use.
STORAGE	Store in original container in a cool, dry, ventilated place out of reach of children and away from food, drink and animal feeding stuffs.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION (See also box 7)

EXPOSURE STANDARD Directive EC/98/24 (1 st IOELV Directive)	OES for propane-1,2-diol for total (vapour and particulates) is 474 mg/m ³ long-term exposure (8 hour Time Weighted Average) and for particulates is 10 mg/m ³ long-term exposure (8 hour TWA).
ENGINEERING CONTROLS	Where prevention of exposure is not reasonably practicable, adequate control of exposure should be achieved by engineering controls rather than the provision of personal protective equipment and clothing. More specific details cannot be given without carrying out a full risk assessment for each and every use scenario. Suitable and approved personal protective equipment and clothing may include the following item(s):
EYE PROTECTION	None necessary under normal working conditions.
HAND PROTECTION	Wear suitable hand protection such as synthetic rubber/PVC gloves.
SKIN PROTECTION	Wear suitable skin protection such as coveralls.
BREATHING PROTECTION	None necessary under normal working conditions.
ENVIRONMENTAL EXPOSURE CONTROLS	Product should be used in accordance with instructions given.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOUR	Blue liquid with no perceptible odour.		
pH	Not applicable.	SOLUBILITY IN WATER	Miscible.
SPECIFIC GRAVITY	1.1	SOLUBILITY IN FAT	Miscible.
FLASH POINT	Not determined.	EXPLOSIVE PROPERTIES	For Monopropylene glycol:- Explosive limits in air 2.6 - 12.5% v/v @ 20°C
FLAMMABILITY	Not flammable.	BOILING POINT/RANGE	> 150°C
AUTOFLAMMABILITY	Not determined.	MELTING POINT/RANGE	Not applicable.
VAPOUR DENSITY	Not applicable.	EVAPORATION RATE	Not determined.
VAPOUR PRESSURE	Not applicable.	PARTITION COEFFICIENT	Not applicable.
VISCOSITY	Not determined.	OXIDISING PROPERTIES	Not determined.
OTHER DATA	None known.		

10 STABILITY AND REACTIVITY

CONDITIONS TO AVOID	Avoid extremes of temperature, e.g. below 0°C and above 40°C.
MATERIALS TO AVOID	None known.
HAZARDOUS BREAKDOWN PRODUCTS	Combustion or thermal decomposition may evolve toxic and irritant vapours.

11 TOXICOLOGICAL INFORMATION (see also box 2)

ACUTE TOXICITY	ORAL	LD ₅₀ (rat) : Males: 979 mg/kg Females: 765 mg/kg If ingested, symptoms may include nosebleed and bleeding gums. In severe cases there may be bruising, haematomas of the joints and blood present in the faeces and urine.
	INHALATION	Inhalation may cause irritation to the respiratory system. In severe cases the symptoms will be similar to ingestion.
	DERMAL	LD ₅₀ (rat) : Males: 1421 mg/kg Females: >2000 mg/kg
CORROSIVITY/ IRRITATION	SKIN	Not expected to be irritating to skin.
	EYES	Not expected to be irritating to eyes.
	RESPIRATORY TRACT	Not expected to be irritating to the respiratory tract.
SENSITISATION	SKIN	Not sensitising to skin.
	RESPIRATORY	Contains no known respiratory sensitisers.
REPEAT-DOSE TOXICITY		Product does not contain any components known to have any effects relating to repeated-dose toxicity.
MUTAGENICITY		Product does not contain any components known to have a mutagenic effect.
CARCINOGENICITY		Product does not contain any components known to have a carcinogenic effect.
REPRODUCTIVE TOXICITY	FERTILITY	Product does not contain any components known to affect fertility.
	DEVELOPMENT	Product does not contain any components known to be toxic to the reproductive system.
OTHER INFORMATION		Bromadiolone is an indirect anticoagulant. Phytomenadione, Vitamin K1, is antidotal. Determine prothrombin times not less than 18 hours after consumption. If elevated, administer Vitamin K1 and continue until prothrombin time normalises. Continue determination of prothrombin time for two weeks after withdrawal of the antidote and resume treatment if elevation occurs in that time.

12 ECOLOGICAL INFORMATION

GENERAL INFORMATION	The full ecotoxicological profile of this product has not been evaluated. Do not contaminate the environment.
ECOTOXICITY DATA	For Bromadiolone: LC ₅₀ (Bluegil sunfish) 3.0 mg/L at 96 hrs. LC ₅₀ (Rainbow Trout) 1.4 mg/L at 96 hrs. LC ₅₀ (<i>Daphnia</i>) 2.0 mg/L at 48 hrs
MOBILITY (OF APPROPRIATE CONSTITUENTS)	Not determined.
PERSISTENCE AND DEGRADABILITY (OF APPROPRIATE CONSTITUENTS)	For Bromadiolone. Very rapid degradation by agents making water drinkable (chlorine, ozone, chlorine dioxide) Rapid degradation on soil under aerobic conditions: half-life a few days. For Bitrex: Abiotic degradation 10% after 5 days at 50°C at all pHs. Abiotic degradation 10% after 30 days at 25°C at all pHs.
BIOACCUMULATIVE POTENTIAL (OF APPROPRIATE CONSTITUENTS)	For Bromadiolone: Fixation on clayey soil. For Bitrex: Low bioaccumulation potential.
ENVIRONMENTAL CONSIDERATIONS	The Bromadiolone and Bitrex™ in this product are classified as toxic and harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment respectively. Thus, every care must be taken to avoid its release and subsequent contamination of the aquatic environment.
OTHER ADVERSE EFFECTS	None known.


13 DISPOSAL CONSIDERATIONS

DISPOSAL OF WASTE	Under normal circumstances waste will be disposed of by Rentokil Initial.
DISPOSAL OF CONTAINERS:	Under normal circumstances empty containers will be disposed of by Rentokil Initial
CLASSIFICATION OF INGREDIENTS. COUNCIL DIRECTIVE 91/689/EC, COMMISSION DECISION 2000/532/EC(AMENDED) COMMISSION DECISION 2001/118/EC)	Hazard Code: H5 - Harmful
	Components making the waste hazardous Concentrations (%): Bromadiolone 0.1 %
NOTE FOR DISPOSAL	Disposal should be in accordance with local, State or National requirements. For further advice about disposal, in the UK, contact the local office of the Environment Agency (England and Wales) or Scottish Environment Protection Agency. Local rate from anywhere in the UK: 0845 9333111.

14 TRANSPORT INFORMATION (INTERNATIONAL UNLESS OTHERWISE INDICATED)

UN No.	Not Classified.	TREMCARD REFERENCE No.	Not required.	LABELS	
UK CDGCPL2 (UK ROAD)	CLASS N/A	UK HAZCHEM EAC	Not required.	Not required.	
UK CDGROAD TRANSPORT CATEGORY	Not required.	RIS CODE	PSL11		
PROPER SHIPPING NAME	Not required.				
LIMITED QUANTITY EXCEPTIONS	Not required.				
SPECIAL REQUIREMENTS	Not required.		PACKING GROUP Not required.		
ADR 2003 (INTERNATIONAL ROAD)	CLASS N/A	ADR HIN	Not required.		
PROPER SHIPPING NAME	Not required.				
LIMITED QUANTITY EXCEPTIONS	Not required.				
SPECIAL REQUIREMENTS	Not required.		PACKING GROUP Not required.		
IMDG 2002 (SEA)	CLASS N/A	IMDG EMS	Not required.		
PROPER SHIPPING NAME	Not required.				
LIMITED QUANTITY EXCEPTIONS	Not required.				
SPECIAL REQUIREMENTS	Not required.		PACKING GROUP Not required.		
NOTE FOR TRANSPORT.	Local, State or National requirements may apply to the carriage of this product.				

15 REGULATORY INFORMATION (HEALTH AND SAFETY INFORMATION (see also box 2))

HAZARD SYMBOLS	
CLASSIFICATION	X_n - Harmful
RISK PHRASES	R21/22 Harmful in contact with skin and if swallowed.
SAFETY PHRASES	S24 Avoid contact with skin. S28 After contact with skin, wash immediately with plenty of water. S36/37 Wear suitable protective clothing and gloves. S45 In case of an accident or if you feel unwell seek medical advice immediately (show label where possible). S60 This material and its container must be disposed of as hazardous waste.
LEGISLATION	Labelling is according to UK regulations implementing the EC Directive 1999/45. Additional labelling requirements may be necessary in accordance with local legislation. Specific legislation used within this Safety Data Sheet is listed in the above boxes.

16 OTHER INFORMATION and indication of revisions

The information given on this Safety Data Sheet (SDS) does not constitute an assessment in accordance with Control of Substances Hazardous to Health (COSHH) Regulations 2002, in the UK.

Before using any product, ensure that you read and understand its label.

Outside the UK, the registration of this product may be necessary before use and any additional local requirements must be observed at all times.
Bitrex™ is a registered trade mark of Macfarlan Smith.

Changes have been made to the content of boxes 02, 03, 04, 07, 08, 09, 11, 12, 13,14, 15 & 16 (as indicated by the thick lines on the left-hand side of the boxes) compared with issue 09.
N.B. SDS 090 Issue No. 10 also replaces SDS505 issue No. 3.

Before using any product, ensure that you read and understand its label.

The information contained in this safety data sheet is, to the best of our knowledge and belief, accurate and reliable at the time of publication. The information relates only to the specific material designated in this safety data sheet and may not be valid for such material if it is used in combination with any other material(s) or any other use than that specified herein. Rentokil Initial UK Ltd is not liable for the use of this product for any other purpose than that described in this safety data sheet. This does not affect your statutory rights. It is the user's responsibility to satisfy him/herself as to the suitability in completeness of such information for his/her own particular use.