

Safety Data Sheet

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)

Issue : 09 01 : 07 : 2004

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

PRODUCT NAME	BROMATROL CONCENTRATE (with Bitrex™)
DESCRIPTION	A blue, rodenticidal, liquid concentrate with no perceptible odour. Used by service staff as a manufacturing intermediate for the rodenticidal product, Bromatrol.
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 PHYSICAL, CHEMICAL, SIGNIFICANT HUMAN HEALTH AND ENVIRONMENTAL EFFECTS (SEE ALSO BOX 11):

Combustion or thermal decomposition may evolve toxic or irritant vapours.

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 (SEE ALSO BOX 16)

% w/w	COMMON*/CHEMICAL NAME, ELINCS/EINECS & CAS 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 : R27/28 N : R51,53
≤1.0	Bitrex™* / Denatonium benzoate EINECS : 223-095-2 CAS : 3734-33-6	X _n : R22 X _i : R37/38, R41 : R52,53
>50.0 ≤100.0	monopropylene glycol* / Propane-1,2-diol EINECS : 200-338-0 CAS : 57-55-6	Not classified

4 FIRST-AID MEASURES (SEE ALSO "ADVERSE EFFECTS" IN BOX 2)	
INHALATION	Unlikely route of exposure. However, 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 ½ litre or 1 pint 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 or irritant vapours.

6 ACCIDENTAL RELEASE MEASURES	
PERSONAL PRECAUTIONS (See also box 8)	Wear suitable personal protective equipment.
ENVIRONMENTAL PRECAUTIONS	DO NOT contaminate watercourses or ground.
CLEAN-UP PROCEDURE (See also box 13)	Absorb spill with an inert material such as sand, earth or sawdust. Transfer to a suitable container for subsequent disposal.

7 HANDLING AND STORAGE	
HANDLING	Avoid all contact by mouth. Avoid contact with skin. Wear suitable protective clothing and gloves.
STORAGE	Store in original container in a cool, dry, ventilated place out of the 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 (1ST IOELV DIRECTIVE)	OES for monopropylene glycol 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 8 hour TWA. Monopropylene glycol is referred to as propane-1,2-diol in Directive EC/98/24 (1 ST IOELV Directive).
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	A blue, rodenticidal, liquid concentrate with no perceptible odour.		
pH	5.6 at 20°C	SOLUBILITY IN WATER	Miscible.
DENSITY	1.0 at 20°C	SOLUBILITY IN FAT	Not miscible.
FLASH POINT	Not applicable.	EXPLOSIVE PROPERTIES	None.
FLAMMABILITY	Non-flammable.	COMBUSTIBILITY	Non-combustible.
AUTOFLAMMABILITY	Not applicable.	OXIDISING PROPERTIES	Not determined.
BOILING POINT/RANGE	Starts at ca. 100°C	FREEZING POINT/RANGE	Not determined.
VAPOUR DENSITY	Not determined.	EVAPORATION RATE	Not determined.
VAPOUR PRESSURE	Not applicable.	PARTITION COEFFICIENT	Not applicable.
VISCOSITY	Not applicable.	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 or irritant vapours.

11 TOXICOLOGICAL INFORMATION (SEE ALSO BOX 2)

ACUTE TOXICITY	ORAL	For similar product: LD ₅₀ (rat) : 860 mg/kg (male and female).
	INHALATION	Inhalation may cause irritation to the respiratory system. In severe cases the symptoms may be similar to those of ingestion.
	DERMAL	For similar product: LC ₅₀ (rat) (4hr) : 1421 mg/kg (male). For similar product: LC ₅₀ (rat) (4hr) : >2000 mg/kg (female).
CORROSIVITY/ IRRITATION	SKIN	No relevant data available.
	EYES	For similar product: not expected to be irritating to eyes.
	RESPIRATORY TRACT	No relevant data available.
SENSITISATION	SKIN	Contains no known skin sensitisers.
	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 have effects on 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 (Bluegill sunfish) (96hr) : 0.3mg/L For bromadiolone : LC ₅₀ (Rainbow trout) (96hr) : 0.14mg/L For bromadiolone : LC ₅₀ (<i>Daphnia magna</i>) (48hr) : 0.2mg/L
MOBILITY (of appropriate constituents)	Not determined.
PERSISTENCE AND DEGRADABILITY (of appropriate constituents)	Not determined.
BIOACCUMULATIVE POTENTIAL (of appropriate constituents)	Not determined.
ENVIRONMENTAL CONSIDERATIONS	DO NOT contaminate watercourses or ground. The bromadiolone in this product is classified as toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. The Bitrex™ in this product is classified as harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Thus, every care must be taken to avoid its release and the subsequent contamination of the aquatic environment.
OTHER ADVERSE EFFECTS	None.

13 DISPOSAL CONSIDERATIONS

DISPOSAL OF WASTE	Waste should be disposed of in accordance with local, State or National requirements.
DISPOSAL OF CONTAINERS:	Empty containers should be disposed of in accordance with local, State or National requirements.
CLASSIFICATION OF INGREDIENTS. (Council Directive 91/689/EC, Commission Decision 2000/532/EC (amended) Commission Decision 2001/118/EC))	Hazard Code: H5 - Harmful. <u>Components making the waste hazardous</u> <u>Concentrations (%)</u> : 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.	RIS CODE
TRANSPORT CATEGORY	Not required.	UK HAZCHEM EAC	Not required.	PSB20
ADR 2003 (INTERNATIONAL ROAD) PROPER SHIPPING NAME LIMITED QUANTITY EXCEPTIONS SPECIAL REQUIREMENTS	CLASS Not required.	ADR HIN	Not required.	LABELS Not required.
IMDG 2002 (SEA) PROPER SHIPPING NAME LIMITED QUANTITY EXCEPTIONS SPECIAL REQUIREMENTS	CLASS Not required.	IMDG EMS	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	
INDICATION OF DANGER	X_n - HARMFUL
RISK PHRASES	R21/22 Harmful in contact with skin or if swallowed.
SAFETY PHRASES	S2 Keep out of the reach of children. S13 Keep away from food drink and animal feeding stuffs. S24 Avoid contact with skin. S36/37 Wear suitable protective clothing and gloves. S46 If swallowed, seek medical advice immediately and show this container or label. 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 trademark of Macfarlan Smith Ltd.

REVISIONS	Changes have been made to the content of boxes 1, 2, 3, 4, 6, 8, 9, 11, 12, 13, 14, 15 & 16 (as indicated by the thick lines on the left-hand side of the boxes) compared with issue 08.
RISK PHRASE TEXT (from box 3)	R22 : Harmful if swallowed. R27/28 : Very toxic in contact with skin and if swallowed. R37/38 : Irritating to respiratory system and skin. R41 : Risk of serious damage to eyes. R51,53 : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R52,53 : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

BROMATROL CONCENTRATE (with Bitrex™)

SDS No. 021

Issue : 09

01 : 07 : 2004

Page 4 of 4

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.

Copyright © (2004) Rentokil Initial plc, R&D, Felcourt, East Grinstead, West Sussex. RH19 2JY. United Kingdom.

Telephone: +44 (0) 1342 833022 Fax: +44 (0) 1342 326229 Web: www.ri-research.com