

# 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 using the details below. In order to confirm the latest version of the SDS for this product visit <http://www.rentokil-initial.com/sds>

Issue : 01 10:03:2011

1 IDENTIFICATION OF THE MIXTURE AND COMPANY		
<b>Product identifier</b>	<b>BROMADIOLONE WHOLE GRAIN BAIT</b>	<b>HSE 6721 PCS 95181</b>
<b>Relevant identified uses of the mixture and uses advised against</b>	A rodenticide for professional use. A blue ready-to-use whole grain bait with no perceptible odour. Contains Bitrex®, a bittering agent. Part of the Deadline Range.	
<b>Details of the supplier of the safety data sheet</b>	Rentokil Initial Supplies, Liverpool, L33 7SR. UK Product advice line: +44 (0)151 548 5050 Emergency line: +44 (0)1342 833 022 E-mail: <a href="mailto:sds@rentokil.com">sds@rentokil.com</a>	
<b>National Contact</b>	As above	
<b>Emergency telephone number</b>	0844 892 011 (for use by medical professionals only).	

2 HAZARDS IDENTIFICATION	
<b>Classification according to Regulation (EC) No 1272/2008 (See section 16)</b>	
See section 16 / Not applicable.	
<b>Classification according to Directive 1999/45/EC (See section 16)</b>	
Not classified.	
<b>Label elements</b>	
Hazard symbol not required	
<b>Risk phrase(s), in full</b>	Risk phrases not required.
<b>Safety phrase(s), in full</b>	Safety phrases are not required.
To avoid risks to man and the environment, comply with the instructions for use. Safety Data Sheet available to professional user on request.	
<b>Other hazards</b>	
None expected under normal conditions of handling and use.	
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. Phytomenadione, Vitamin K1, is antidotal.	

<b>3 COMPOSITION / INFORMATION ON INGREDIENTS (See section 16)</b>							
% w/w	Common*/ Chemical Name (IUPAC)	CAS No.	EC No.	Index No.	Regulation (EC) No 1907/2006 (REACH) Registration No.	Directive 67/548/EEC Classification	Regulation (EC) No 1272/2008 classification
0.005	Bromadiolone*/3-[3-(4'-bromobiphenyl-4-yl)-3-hydroxy-1-phenylpropyl]-4-hydroxycoumarin	28772-56-7	249-205-9	-	-	Not classified.	T+ : R26/27/28 : R48/24/25 N : R50/53

<b>4 FIRST-AID MEASURES</b>	
<b>Inhalation</b>	This route of exposure is not anticipated.
<b>Eye Contact</b>	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.
<b>Skin Contact</b>	Remove and wash contaminated clothing immediately. Wash affected area thoroughly with soap and water. If the patient feels unwell seek medical advice.
<b>Ingestion (Swallowing)</b>	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.
<b>Emergency Equipment Suggested</b>	Appropriate first-aid equipment should be provided.
<b>Note To Doctor</b>	Further information on all Rentokil Initial formulations is lodged with the National Poisons Information.
<b>Antidote</b>	Phytomenadione, Vitamin K1, is antidotal.

<b>5 FIRE FIGHTING MEASURES</b>	
<b>Suitable extinguishing media</b>	Use carbon dioxide, foam, water, or dry powder extinguishers.
<b>Unsuitable extinguishing media</b>	Do not use water jet as this may spread the fire.
<b>Special hazards arising from the mixture</b>	Combustion or thermal decomposition may evolve toxic and irritant vapours.
<b>Advice for fire-fighters</b>	Wear suitable personal protective equipment conforming to EN469.

<b>6 ACCIDENTAL RELEASE MEASURES</b>	
<b>Personal precautions, protective equipment and emergency procedures</b>	Wear suitable personal protective equipment.
<b>Environmental Precautions</b>	Keep away from drains, surface and ground water, and soil.
<b>Methods and material for containment and cleaning up</b>	Collect up spilt material and transfer to a suitable container for re-use or subsequent disposal.
<b>Reference to other sections</b>	Please also see sections 8 and 13 for further information.
<b>Additional Information</b>	Clear spills immediately.

<b>7 HANDLING AND STORAGE</b>	
<b>Precautions for safe handling</b>	No specific handling requirements.
<b>Conditions for safe storage, including any incompatibilities</b>	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.
<b>Specific end use(s)</b>	Rodenticide.

## BROMADIOLONE WHOLE GRAIN BAIT

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Standard - Directive EC/98/24 (1 <sup>st</sup> IOELV Directive)	Workplace Exposure Limit (WEL) long-term exposure (8 hour Time Weighted Average).	Not applicable.
	Workplace Exposure Limit (WEL) short-term exposure (15 minute reference period).	Not applicable.
	Substance name used in Directive EC/98/24 (1 <sup>st</sup> IOELV Directive).	Not applicable.
Appropriate engineering controls	Where exposure may occur, engineering controls, rather than the provision of Personal Protective Equipment (PPE) should be employed. On completion of a risk assessment, the following PPE may be required:	
Eye/face protection	Label advice indicates none necessary under normal handling and use. However, consider other precautionary requirements.	
Hand protection	Label advice indicates none necessary under normal handling and use. However, consider other precautionary requirements.	
Skin/body protection	Label advice indicates none necessary under normal handling and use. However, consider other precautionary requirements.	
Respiratory protection	Label advice indicates none necessary under normal handling and use. However, consider other precautionary requirements.	
Environmental Exposure Controls	Use only in accordance with instructions given. An ecological hazard assessment indicates no specific restrictions on environmental release.	

## 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance and odour/odour threshold	A blue ready-to-use whole grain bait with no perceptible odour.		
pH	Not applicable.	Solubility in water	Insoluble.
Density	Not determined.	Solubility in other solvents	Not determined.
Specific gravity	0.72 g/cm <sup>3</sup>	Explosive properties	None.
Flash point	Not applicable.	Combustibility	Combustible.
Flammability	Non-flammable.	Oxidising properties	None.
Boiling point/range	Not applicable.	Evaporation rate	Not applicable.
Vapour density	Not applicable.	Partition coefficient: n-octanol/water	Not applicable.
Vapour pressure	Not applicable.	Decomposition temperature	Not determined.
Melting point/freezing point	Not determined.	Auto-ignition temperature	Not determined.
Upper/lower flammability or explosive limits	Not determined.	Other safety information	None known.
Viscosity	Not applicable.		

## 10 STABILITY AND REACTIVITY

Reactivity	This product is stable under normal conditions of handling and use.
Chemical Stability	Stable.
Possibility of hazardous reactions	None expected under normal conditions of handling and use.
Conditions to avoid	Avoid extremes of temperature, e.g. below 0°C and above 40°C.
Incompatible materials	Avoid contact with oxidising agents which the substance or mixture could react to produce a hazardous situation.
Hazardous decomposition products	Combustion or thermal decomposition may evolve toxic and irritant vapours.

<b>11 TOXICOLOGICAL INFORMATION (SEE ALSO BOX 2)</b>		
<b>Acute Toxicity</b>	<b>Oral</b>	For Bromadiolone: LD <sub>50</sub> (rat) < 5 mg/kg
	<b>Inhalation</b>	This route of exposure is not anticipated.
	<b>Dermal</b>	For Bromadiolone: LD <sub>50</sub> (male rat) < 1820 mg/kg
<b>Corrosivity/Irritation</b>	<b>Skin</b>	No skin irritation potential expected.
	<b>Eyes</b>	No eye irritation potential expected.
	<b>Respiratory tract</b>	No respiratory tract irritation potential expected.
<b>Sensitisation</b>	<b>Skin</b>	Contains no known skin sensitisers.
	<b>Respiratory</b>	Contains no known respiratory sensitisers.
<b>Repeat-Dose Toxicity</b>	For Bromadiolone: LOAEL; 90 days; dog: 20µg/kg bw/day based on haemorrhagic changes seen at necropsy. The substance is classified as having danger of serious damage to health by prolonged exposure.	
<b>Mutagenicity</b>	Product does not contain any components known to have a mutagenic effect.	
<b>Carcinogenicity</b>	Product does not contain any components known to have a carcinogenic effect.	
<b>Reproductive Toxicity</b>	<b>Fertility</b>	Product does not contain any components known to have effects on fertility.
	<b>Development</b>	Product does not contain any components known to be toxic to the reproductive system.
<b>Other Information</b>	Bromadiolone is an indirect anticoagulant. Phytomenadione, Vitamin K1, is antidotal. Determine prothrombin times not less than eighteen hours after consumption. If elevated, administer Vitamin K1 until prothrombin time normalises. Continue determination of prothrombin time for two weeks after withdrawal of antidote and resume treatment if elevation occurs in that time.	

<b>12 ECOLOGICAL INFORMATION</b>	
<b>General Information</b>	The Bromadiolone in this product is classified as very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. The Denatonium Benzoate in this product is classified as harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment. However, when used in accordance with instructions given, controlled release of this product is not expected to cause environmental contamination.
<b>Ecotoxicity Data</b>	For Bromadiolone: LC <sub>50</sub> (Fish: <i>Oncorhynchus mykiss</i> ) (96h): >1.4 mg/L LC <sub>50</sub> (Fish: <i>Lepomis macrochirus</i> ) (96h): 3.0 mg/L EbC <sub>50</sub> (Algae: <i>Scenedesmus subspicatus</i> ) (72h): 0.17mg/L EC <sub>50</sub> ( <i>Daphnia magna</i> )(48h) : 2.0 mg/L
<b>Persistence and Degradability</b>	For Bromadiolone: Bromadiolone is not considered volatile and is not expected to volatilise to air in significant quantities.
<b>Bioaccumulative Potential</b>	For Bromadiolone: The log Pow is greater than 3, which indicates a potential to bioaccumulate.
<b>Mobility</b>	For Bromadiolone: Bromadiolone and any potential degradation products, even if released indirectly to soil in small quantities, are not likely to move through the soil profile and are unlikely to reach groundwater in significant quantities.
<b>Results of PBT and vPvB assessment</b>	Does not meet the requirements for assessment.
<b>Other Adverse Effects</b>	None known.

## BROMADIOLONE WHOLE GRAIN BAIT

<b>13 DISPOSAL CONSIDERATIONS</b>				
<b>Waste treatment methods</b>	All pesticide waste should be disposed of using EWC code EWC: 20 01 19. If plastic or metal container is empty and triple rinsed, it can be disposed of as non-hazardous controlled waste.			
<b>Product/packaging disposal</b>	This product and its empty container must be disposed of as controlled waste.			
<b>Classification</b> (Council Directive 91/689/EC, Commission Decision 2000/532/EC (amended) Commission Decision 2001/118/EC)	<u>Hazard Code</u> : Not classified.			
	<table border="1"> <thead> <tr> <th><u>Components making the waste hazardous</u></th> <th><u>Concentrations (%)</u></th> </tr> </thead> <tbody> <tr> <td>Not required.</td> <td></td> </tr> </tbody> </table>	<u>Components making the waste hazardous</u>	<u>Concentrations (%)</u>	Not required.
<u>Components making the waste hazardous</u>	<u>Concentrations (%)</u>			
Not required.				
<b>Note for Disposal</b>	The best means of disposal of any product is through proper use according to the label. 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: +44 (0) 870 850 6506.			

<b>14 TRANSPORT INFORMATION (INTERNATIONAL UNLESS OTHERWISE INDICATED)</b>					
<b>UN No.</b>	Not applicable.		<b>Tremcard Reference No.</b>	Not applicable.	<b>RIS Code</b>
<b>Transport Category</b>	Not applicable.		<b>UK Hazchem EAC</b>	Not applicable.	PSD73 (20kg), 0309, 0312
<b>ADR 2011 (International Road)</b>	<b>Class</b>	Not applicable.	<b>ADR HIN</b>	Not applicable.	<b>Labels</b>
<b>Proper Shipping Name</b>	Not applicable.				Not applicable.
<b>Limited Quantity Exemptions</b>	Not applicable.				
<b>Special Provisions</b>	Not applicable.		<b>Packing Group</b>	Not applicable.	
<b>IMDG 2010 (Sea)</b>	<b>Class</b>	Not applicable.	<b>IMDG EMS</b>	Not applicable.	
<b>Proper Shipping Name</b>	Not applicable.				
<b>Limited Quantity Exemptions</b>	Not applicable.				
<b>Special Requirements</b>	Not applicable.		<b>Packing Group</b>	Not applicable.	
<b>Note for Transport</b>	Local, State or National requirements may apply to the carriage of this product.				

<b>15 REGULATORY INFORMATION</b>	
<b>Authorisations and/or restrictions on use</b>	Information to be made available according to ECHA review programme.
<b>Other EU regulations</b>	This safety data sheet was prepared in accordance with EC Directive 1907/2006. Labelling is in accordance with UK regulations implementing the EC Directive 1999/45. Additional labelling requirements may be necessary in accordance with other National legislation. The registration of this product may be necessary before use and any additional local requirements must be observed at all times. Other National measures or guidance should be followed where appropriate.
<b>Chemical safety assessment</b>	Information to be made available according to ECHA review programme.

<b>16 OTHER INFORMATION</b>																																																															
<b>Revisions</b>	Not applicable.																																																														
<b>Abbreviations and acronyms</b>	<p>Typical standard abbreviations and acronyms used in Rentokil Initial Safety Data Sheets are as follows:</p> <table border="0"> <tr> <td>ADR 2011</td> <td>International Carriage of Dangerous Goods by Road (ADR)</td> </tr> <tr> <td>ADR HIN</td> <td>ADR Hazard Identification Number (HIN)</td> </tr> <tr> <td>Annex I DNEL or PNEC</td> <td>Derived No Effect Level / Predicted No Effect Concentration</td> </tr> <tr> <td>CAS No</td> <td>Chemicals Abstract Service Registry Number</td> </tr> <tr> <td>COSHH assessments.</td> <td>Control of substances hazardous to health</td> </tr> <tr> <td>ECHA</td> <td>European Chemicals Agency</td> </tr> <tr> <td>EC No</td> <td>European Commission number</td> </tr> <tr> <td>EN469</td> <td>European standard for Personal Protective Equipment used for fire fighting.</td> </tr> <tr> <td>EN standards for PPE</td> <td>European Standards for Personal Protective Equipment</td> </tr> <tr> <td>EWC</td> <td>European Waste Catalogue Code</td> </tr> <tr> <td>IMDG 2010</td> <td>International Maritime Dangerous Goods (IMDG) Code</td> </tr> <tr> <td>IUPAC</td> <td>International Union of Pure and Applied Chemistry</td> </tr> <tr> <td>LD<sub>50</sub></td> <td>Median lethal dose</td> </tr> <tr> <td>LC<sub>50</sub></td> <td>Lethal concentration 50</td> </tr> <tr> <td>REACH</td> <td>Registration, Evaluation, Authorisation and restriction of Chemicals</td> </tr> <tr> <td>RIS Code</td> <td>Internal manufacturing code number</td> </tr> <tr> <td>WEL</td> <td>Workplace Exposure Limit</td> </tr> <tr> <td>UK Hazchem EAC</td> <td>UK Hazchem Emergency Action Code</td> </tr> </table> <p>Typical Directives and Regulations referred to Rentokil Initial Safety Data Sheets are as follows:</p> <table border="0"> <tr> <td>Commission Decision 95/320/EC</td> <td>Scientific Committee for Occupational Exposure Limits to Chemical agents.</td> </tr> <tr> <td>Commission Decision 2000/532/EC</td> <td>List of wastes</td> </tr> <tr> <td>Commission Decision 2001/118/EC</td> <td>Amendment to 200/532/EC with regards to List of wastes</td> </tr> <tr> <td>Directive 67/548/EEC</td> <td>Dangerous Substances Directive</td> </tr> <tr> <td>Directive 89/686/EEC</td> <td>The Personal Protective Equipment (PPE) Directive</td> </tr> <tr> <td>Directive 91/689/EC</td> <td>Directive on Hazardous waste</td> </tr> <tr> <td>Directive 98/24/EC (1st IOELV Directive)</td> <td>Chemical Agents Directive 98/24/EC Protection of the Health and Safety of Workers from the Risks from Chemical Agents. IOELV Directive: Indicative Occupational Exposure Limit Values.</td> </tr> <tr> <td>Directive 1907/2006.</td> <td>REACH (Registration, Evaluation, Authorisation and restriction of Agents</td> </tr> <tr> <td>Directive 1999/45/EC</td> <td>Dangerous Preparations Directive</td> </tr> <tr> <td>Directive 2004/37/EC</td> <td>Carcinogens and Mutagens Directive</td> </tr> <tr> <td>Directive (76/768/EC) (as amended)</td> <td>The Cosmetics Directive</td> </tr> <tr> <td>Regulation (EC) No. 648/2004</td> <td>Detergents Regulation</td> </tr> <tr> <td>Regulation (EC) No 1272/2008</td> <td>Classification, Labelling and Packaging</td> </tr> </table>	ADR 2011	International Carriage of Dangerous Goods by Road (ADR)	ADR HIN	ADR Hazard Identification Number (HIN)	Annex I DNEL or PNEC	Derived No Effect Level / Predicted No Effect Concentration	CAS No	Chemicals Abstract Service Registry Number	COSHH assessments.	Control of substances hazardous to health	ECHA	European Chemicals Agency	EC No	European Commission number	EN469	European standard for Personal Protective Equipment used for fire fighting.	EN standards for PPE	European Standards for Personal Protective Equipment	EWC	European Waste Catalogue Code	IMDG 2010	International Maritime Dangerous Goods (IMDG) Code	IUPAC	International Union of Pure and Applied Chemistry	LD <sub>50</sub>	Median lethal dose	LC <sub>50</sub>	Lethal concentration 50	REACH	Registration, Evaluation, Authorisation and restriction of Chemicals	RIS Code	Internal manufacturing code number	WEL	Workplace Exposure Limit	UK Hazchem EAC	UK Hazchem Emergency Action Code	Commission Decision 95/320/EC	Scientific Committee for Occupational Exposure Limits to Chemical agents.	Commission Decision 2000/532/EC	List of wastes	Commission Decision 2001/118/EC	Amendment to 200/532/EC with regards to List of wastes	Directive 67/548/EEC	Dangerous Substances Directive	Directive 89/686/EEC	The Personal Protective Equipment (PPE) Directive	Directive 91/689/EC	Directive on Hazardous waste	Directive 98/24/EC (1st IOELV Directive)	Chemical Agents Directive 98/24/EC Protection of the Health and Safety of Workers from the Risks from Chemical Agents. IOELV Directive: Indicative Occupational Exposure Limit Values.	Directive 1907/2006.	REACH (Registration, Evaluation, Authorisation and restriction of Agents	Directive 1999/45/EC	Dangerous Preparations Directive	Directive 2004/37/EC	Carcinogens and Mutagens Directive	Directive (76/768/EC) (as amended)	The Cosmetics Directive	Regulation (EC) No. 648/2004	Detergents Regulation	Regulation (EC) No 1272/2008	Classification, Labelling and Packaging
ADR 2011	International Carriage of Dangerous Goods by Road (ADR)																																																														
ADR HIN	ADR Hazard Identification Number (HIN)																																																														
Annex I DNEL or PNEC	Derived No Effect Level / Predicted No Effect Concentration																																																														
CAS No	Chemicals Abstract Service Registry Number																																																														
COSHH assessments.	Control of substances hazardous to health																																																														
ECHA	European Chemicals Agency																																																														
EC No	European Commission number																																																														
EN469	European standard for Personal Protective Equipment used for fire fighting.																																																														
EN standards for PPE	European Standards for Personal Protective Equipment																																																														
EWC	European Waste Catalogue Code																																																														
IMDG 2010	International Maritime Dangerous Goods (IMDG) Code																																																														
IUPAC	International Union of Pure and Applied Chemistry																																																														
LD <sub>50</sub>	Median lethal dose																																																														
LC <sub>50</sub>	Lethal concentration 50																																																														
REACH	Registration, Evaluation, Authorisation and restriction of Chemicals																																																														
RIS Code	Internal manufacturing code number																																																														
WEL	Workplace Exposure Limit																																																														
UK Hazchem EAC	UK Hazchem Emergency Action Code																																																														
Commission Decision 95/320/EC	Scientific Committee for Occupational Exposure Limits to Chemical agents.																																																														
Commission Decision 2000/532/EC	List of wastes																																																														
Commission Decision 2001/118/EC	Amendment to 200/532/EC with regards to List of wastes																																																														
Directive 67/548/EEC	Dangerous Substances Directive																																																														
Directive 89/686/EEC	The Personal Protective Equipment (PPE) Directive																																																														
Directive 91/689/EC	Directive on Hazardous waste																																																														
Directive 98/24/EC (1st IOELV Directive)	Chemical Agents Directive 98/24/EC Protection of the Health and Safety of Workers from the Risks from Chemical Agents. IOELV Directive: Indicative Occupational Exposure Limit Values.																																																														
Directive 1907/2006.	REACH (Registration, Evaluation, Authorisation and restriction of Agents																																																														
Directive 1999/45/EC	Dangerous Preparations Directive																																																														
Directive 2004/37/EC	Carcinogens and Mutagens Directive																																																														
Directive (76/768/EC) (as amended)	The Cosmetics Directive																																																														
Regulation (EC) No. 648/2004	Detergents Regulation																																																														
Regulation (EC) No 1272/2008	Classification, Labelling and Packaging																																																														
<b>Key literature references and sources for data</b>	For details of the data and information sources used, please contact Rentokil Initial using the details in Section 1.																																																														
<b>Classification and used classification procedure for mixtures labelled to Directive 1999/45/EC according to Regulation (EC) No 1272/2008</b>	Not currently classified to Regulation (EC) No 1272/2008 until 31/05/2015.																																																														
<b>Risk phrase text</b> (From section 3 - These refer to the ingredients only. See section 2 for the product risk phrases)	R26/27/28 : Very toxic by inhalation, in contact with skin and if swallowed. R48/24/25 : Toxic: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed. R50/53 : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.																																																														
<b>Hazard statement text</b> (From section 3 - These refer to the ingredients only. See section 2 for the product risk phrases)	Hazard phrases are a requirement of Regulation (EC) No 1272/2008, and will be listed when available.																																																														
<b>Training advice</b>	Use biocides safely. Always read the label and product information before use. Ensure you have received adequate training and or instructions before use.																																																														
<b>Further information</b>	A plastic lined paper sack containing 20 kg of product. Bitrex® is a registered trademark of Macfarlan Smith Ltd.																																																														

## BROMADIOLONE WHOLE GRAIN BAIT

SDS No. 1078-GB-IE

Issue : 01

10: 03 : 2011

Page 6 of 6

**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 © (2011) Rentokil Initial plc, European Technical Centre, Units 7 & 8 Foundry Court, Foundry Lane, Horsham, West Sussex. RH13 5PY. United Kingdom.

Telephone: +44 (0) 1342 833 022 Fax: +44 (0) 1403 214101