Telephone the bat advice helpline 0345 1300 228 before using timber treatments and insecticide products at bat roost sites.

Table 2. Maximum suitable application rate (ml per square metre of timber surface) for products containing single active ingredients[6].

		Concentration of Active Ingredient (%) in Product										
Active Ingredient	**LD_{50}**	**0.02**	**0.05**	**0.1**	**0.2**	**0.4**	**0.6**	**0.8**	**1**	**5**	**10**	**50**
3-Iodo-2-Propynyl-N-Butyl Carbamate	1470	>5L	>5L	>5L	4140	2070	1380	1035	828	166	83	17
Benzalkonium Chloride	150	4224	1690	845	422	211	141	106	84	17	8	2
Boric Acid	4500	>5L	>5L	>5L	>5L	>5L	4224	3168	2534	507	253	51
Copper Carbonate Hydroxide	1350	>5L	>5L	>5L	3802	1901	1267	950	760	152	76	15
Dichlofluanid	5000	>5L	>5L	>5L	>5L	>5L	4694	3520	2816	563	282	56
Disodium Octaborate	500	>5L	>5L	2816	1408	704	469	352	282	56	28	6
Disodium Octaborate Tetrahydrate	2000	>5L	>5L	>5L	>5L	2816	1877	1408	1126	225	113	23
Flufenoxuron	3000	>5L	>5L	>5L	>5L	4224	2816	2112	1690	338	169	34
Permethrin	652	>5L	>5L	3672	1836	918	612	459	367	73	37	7
Propiconazole	1520	>5L	>5L	>5L	4280	2140	1427	1070	856	171	86	17
Tebuconazole	1615	>5L	>5L	>5L	4548	2274	1516	1137	910	182	91	18

Table 3. Maximum suitable application rate (ml per square metre of timber surface) for products containing single active ingredients that are pre-diluted 5-fold[7].

		Concentration of Active Ingredient (%) in Product										
Active Ingredient	**LD_{50}**	**0.02**	**0.05**	**0.1**	**0.2**	**0.4**	**0.6**	**0.8**	**1**	**5**	**10**	**50**
3-Iodo-2-Propynyl-N-Butyl Carbamate	1470	>5L	>5L	>5L	>5L	>5L	>5L	>5L	4140	828	414	83
Benzalkonium Chloride	150	>5L	>5L	4224	2112	1056	704	528	422	84	42	8
Boric Acid	4500	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	2534	1267	253
Copper Carbonate Hydroxide	1350	>5L	>5L	>5L	>5L	>5L	>5L	4752	3802	760	380	76
Dichlofluanid	5000	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	2816	1408	282
Disodium Octaborate	500	>5L	>5L	>5L	>5L	3520	2347	1760	1408	282	141	28
Disodium Octaborate Tetrahydrate	2000	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	1126	563	113
Flufenoxuron	3000	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	1690	845	169
Permethrin	652	>5L	>5L	>5L	>5L	4590	3060	2295	1836	367	184	37
Propiconazole	1520	>5L	>5L	>5L	>5L	>5L	>5L	>5L	4280	856	428	86
Tebuconazole	1615	>5L	>5L	>5L	>5L	>5L	>5L	>5L	4548	910	455	91

Table 4. Maximum suitable application rate (ml per square metre of timber surface) for products containing single active ingredients that are pre-diluted 25-fold[8].

		Concentration of Active Ingredient (%) in Product										
Active Ingredient	**LD_{50}**	**0.02**	**0.05**	**0.1**	**0.2**	**0.4**	**0.6**	**0.8**	**1**	**5**	**10**	**50**
3-Iodo-2-Propynyl-N-Butyl Carbamate	1470	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	4140	2070	414
Benzalkonium Chloride	150	>5L	>5L	>5L	>5L	>5L	3520	2640	2112	422	211	42
Boric Acid	4500	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	1267
Copper Carbonate Hydroxide	1350	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	3802	1901	380
Dichlofluanid	5000	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	1408
Disodium Octaborate	500	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	1408	704	141
Disodium Octaborate Tetrahydrate	2000	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	2816	563
Flufenoxuron	3000	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	4224	845
Permethrin	652	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	1836	918	184
Propiconazole	1520	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	4280	2140	428
Tebuconazole	1615	>5L	>5L	>5L	>5L	>5L	>5L	>5L	>5L	4548	2274	455

Table 5. Minimum suitable application rate (square metres of timber surface per litre of product) for products containing single active ingredients[9].

		Concentration of Active Ingredient (%) in Product										
Active Ingredient	**LD_{50}**	**0.02**	**0.05**	**0.1**	**0.2**	**0.4**	**0.6**	**0.8**	**1**	**5**	**10**	**50**
3-Iodo-2-Propynyl-N-Butyl Carbamate	1470	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.8	1.0	5.0	10.0	50.0
Benzalkonium Chloride	150	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	1.0	1.2	6.0	12.1	60.4
Boric Acid	4500	<0.5	0.6	1.2	2.4	4.7	7.1	9.5	11.8	59.2	118.4	591.8
Copper Carbonate Hydroxide	1350	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.0	3.9	19.7
Dichlofluanid	5000	<0.5	<0.5	<0.5	<0.5	0.5	0.8	1.1	1.3	6.6	13.2	65.8
Disodium Octaborate	500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.8	3.6	17.8
Disodium Octaborate Tetrahydrate	2000	<0.5	<0.5	<0.5	0.7	1.4	2.1	2.8	3.6	17.8	35.5	177.6
Flufenoxuron	3000	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.7	0.9	4.4	8.9	44.4
Permethrin	652	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	3.0	5.9	29.6
Propiconazole	1520	<0.5	<0.5	<0.5	0.5	1.1	1.6	2.2	2.7	13.6	27.2	136.2
Tebuconazole	1615	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	0.9	1.2	5.8	11.7	58.4

Table 6. Minimum suitable application rate (square metres of timber surface per litre of product) for products containing single active ingredients that are pre-diluted 5-fold[10].

		Concentration of Active Ingredient (%) in Product										
Active Ingredient	**LD_{50}**	**0.02**	**0.05**	**0.1**	**0.2**	**0.4**	**0.6**	**0.8**	**1**	**5**	**10**	**50**
3-Iodo-2-Propynyl-N-Butyl Carbamate	1470	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	2.4	12.1
Benzalkonium Chloride	150	<0.5	<0.5	<0.5	<0.5	0.9	1.4	1.9	2.4	11.8	23.7	118.4
Boric Acid	4500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	3.9
Copper Carbonate Hydroxide	1350	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	2.6	13.2
Dichlofluanid	5000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	3.6
Disodium Octaborate	500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.7	3.6	7.1	35.5
Disodium Octaborate Tetrahydrate	2000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	1.8	8.9
Flufenoxuron	3000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	5.9
Permethrin	652	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	2.7	5.4	27.2
Propiconazole	1520	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	2.3	11.7
Tebuconazole	1615	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	2.2	11.0

Table 7. Minimum suitable application rate (square metres of timber surface per litre of product) for products containing single active ingredients that are pre-diluted 25-fold[11].

		Concentration of Active Ingredient (%) in Product										
Active Ingredient	**LD_{50}**	**0.02**	**0.05**	**0.1**	**0.2**	**0.4**	**0.6**	**0.8**	**1**	**5**	**10**	**50**
3-Iodo-2-Propynyl-N-Butyl Carbamate	1470	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.4
Benzalkonium Chloride	150	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.4	4.7	23.7
Boric Acid	4500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.8
Copper Carbonate Hydroxide	1350	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	2.6
Dichlofluanid	5000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7
Disodium Octaborate	500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	1.4	7.1
Disodium Octaborate Tetrahydrate	2000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.8
Flufenoxuron	3000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2
Permethrin	652	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	1.1	5.4
Propiconazole	1520	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.3
Tebuconazole	1615	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.2

[1] Products on the list are those that have come to the attention of Natural England; other suitable products may also be available. Pre-treatment and decorative products are not included. The efficacy of particular products in particular situations is the responsibility of the manufacturer and no endorsement is given or implied. These products have approval under the Control of Pesticides Regulations (COPR), the EU Biocides Regulation 528/2012 (EU BPR), or are listed on the Biocides Certificate of Exemptions.

[2] A Aerosol product
S Solvent-based product
W Aqueous solution, ready for use
Wc Aqueous solution concentrate, to be diluted with water
Mc Microemulsion concentrate; to be diluted with water to form a microemulsion R Solid rod, for insertion into pre-drilled hole
Pa Bodied paste

[3] P Cleared for professional use only
A Cleared for professional and amateur use (a DIY product)

[4] IPBC is an abbreviation for 3-Iodo-2-Propynyl-N-Butyl Carbamate
Flurox is an abbreviation for Flufenoxuron

[5] Health and Safety Executive (HSE), to search the pesticides databases, go to **http://www.hse.gov.uk/biocides/index.htm**

[6] This table gives the maximum suitable application rate, in millilitres per square metre of timber surface, for undiluted products. The relationship between application rate and the concentration of active ingredient is linear and so maximum application rates can be interpolated for active ingredient concentrations that fall between those listed here.

[7] This table gives the maximum suitable application rate, in millilitres per square metre of timber surface, for products that are diluted 5-fold prior to application. The relationship between application rate and the concentration of active ingredient is linear and so maximum application rates can be interpolated for active ingredient concentrations that fall between those listed here.

[8] This table gives the maximum suitable application rate, in millilitres per square metre of timber surface, for products that are diluted 25-fold prior to application. The relationship between application rate and the concentration of active ingredient is linear and so maximum application rates can be interpolated for active ingredient concentrations that fall between those listed here.

[9] This table gives the minimum suitable application rate, in square metres of timber surface to which 1 litre of product should be applied, for products that are diluted 25-fold prior to application. The relationship between application rate and the concentration of active ingredient is linear and so maximum application rates can be interpolated for active ingredient concentrations that fall between those listed here.

[10] This table gives the minimum suitable application rate, in square metres of timber surface to which 1 litre of product should be applied, for undiluted products. The relationship between application rate and the concentration of active ingredient is linear and so maximum application rates can be interpolated for active ingredient concentrations that fall between those listed here.

[11] This table gives the minimum suitable application rate, in square metres of timber surface to which 1 litre of product should be applied, for products that are diluted 25-fold prior to

application. The relationship between application rate and the concentration of active ingredient is linear and so maximum application rates can be interpolated for active ingredient concentrations that fall between those listed here.

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