



Dealing with Treated Wood Related Waste Streams

Guidance Note on the Legislation and Options

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www.wood-protection.org

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Executive Summary

The Wood Protection Association seeks to encourage:

- reduction of waste generation
- increased reuse and recycling
- maximised raw material recovery
- recognition of the limitations on landfill disposal
- increased energy recovery from treated wood

all arising from the activities of the wood preservation industry and users of treated wood products through the provision of information and guidance to assist in decision-making.

This Guidance Note describes the current understanding of the classification of wastes relevant to the industry and users of treated wood and provides information to help those concerned with the disposal or other options for dealing with the wastes.

There are opportunities to further increase the utilisation of wood preservative waste streams and at present these are not able to be realised because of constraints imposed by the current legislation. A second objective of this document is therefore to provide information which will assist the legislators and regulatory agencies in fulfilling the national waste strategy with respect to wood.

Foreword

In 2004 the Wood Protection Association published its first guidance note on waste relevant to the wood preservation industry.

This 2009 edition of the guidance document provides a wider perspective to the subject as there have been further developments regarding the potential use of wood waste.

EU and UK chemicals legislation continues to change and it is too early to be able to assess the implications of these changes for the wood preservation industry.

This document will be amended when these implications are known and readers are recommended to check with the Wood Protection Association website www.wood-protection.org to ensure they have the latest version of the document.

Much of the information presented in this document has been sourced from NetRegs - a partnership between the UK environmental regulators; the Environment Agency in England and Wales, SEPA in Scotland and the Northern Ireland Environment Agency (NIEA). Readers of this WPA Guidance Note should also refer to the Netregs web site www.netregs.gov.uk for more general free information about environmental affairs affecting business.

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The information contained in this document is given in good faith. Every effort has been made during the consultation and publication process to ensure the guidance given is accurate. The Wood Protection Association cannot accept any liability for loss or damage arising as a consequence of the information given.

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1. Purpose of this guidance

Wood and wood based materials are used extensively in modern society and there is an increasing interest being shown in their re-use, recycling and recovery and in recent years a greater emphasis on utilising the energy present in it.

Waste wood and wood based waste materials can arise from a number of origins including those which contain wood which has been treated with wood preservatives. The fact that the waste contains treated wood influences the status of the waste in terms of its re-use, recycling and recovery.

Questions are often asked as to what can be done with such waste streams and this document gives guidance on these aspects and where re-use, recycling or recovery is not possible, their disposal.

All producers of waste whether in the domestic, commercial or industrial sectors have a duty of care in ensuring their waste is handled by a competent person.

Householders may wish to dispose of wood based materials, unused wood preservative products and items containing treated wood at the end of their useful service life.

Commercial and industrial businesses may also generate such wastes through their activities either during the manufacture and distribution and use of their goods and services, or at the end of life phase, for example in construction and demolition.

This guidance is also intended to be helpful and informative to the regulatory authorities and those concerned with the handling of wood based waste streams.

2. Timber based materials - resource or waste?

Unfortunately there is an inconsistency in the use of the word Treated in the legislation covering waste, energy recovery and reuse. The following section summarises the position regarding timber.

Timber - is categorised as either **VIRGIN** or **NON VIRGIN**.

VIRGIN

Timber from forestry works / virgin wood processing / off-cuts / shavings / sawdust. This material is not classified as a waste.

NON VIRGIN

Timber and timber products and they are subdivided into *Clean* or *Treated*.

Clean – timber or timber products that have not been treated. This material is not classified as waste, but if it is mixed with waste timber it will be classified as a waste.

Uses of such materials include:

- Wood chips for gardens and pathways
- Raw material for composting
- Animal bedding
- Fuel in an appliance
- Raw material for the production of wood based products
- Paper production

*Treated*¹ – timber or timber products that may have been chemically treated to enhance or alter the performance of the original wood with, for example, tar oil (creosote), waterborne or solventborne, wood preservatives or flame retardants and wood treatments. This material is classified as a waste and also requires further consideration as to whether it is a hazardous waste. Typically this group includes off-cuts, shavings, chippings, sawdust, construction and demolition waste, commercial and household sources through civic amenity sites and is subject to waste control legislation.

Uses of such materials include:

- Wood based panel manufacture (WML², PPC³ or IPPC⁴ permit required)
- Landscape application
- Fuel – normally regulated under the Waste Incineration Directive. It remains a waste until it is burned as fuel. Burning may be subject to PPC³ or WML².
- Compost – if made to a Quality Protocol it becomes a product, otherwise it remains a waste until it has been applied to the land.

Notes

1. For the purposes of this document treated means the wood or wood-based product has received an application of a wood preservative.

2. Waste Management Licence

3. Pollution Prevention and Control Regulations

4. Integrated Pollution Prevention and Control

3. Brief background to waste management legislation

Within England, the Department for Environment, Food and Rural Affairs (Defra) is the lead government body dealing with waste issues. Waste issues in Wales are handled by the National Assembly for Wales, those in Scotland by the Scottish Executive and those in Northern Ireland by the Department of the Environment, Northern Ireland. The legislation relevant to each part of the UK can be found in the section on devolved legislation on page 19.

Under the EU Landfill Directive the UK must dramatically reduce the amount of biodegradable municipal waste sent to landfill. This is being achieved through the Landfill (England and Wales) Regulations 2002, as amended, and must be fully implemented by July 2009 and equivalent legislation in Scotland (2003) and Northern Ireland.

The Landfill Directive now means that it is illegal for a landfill operator to accept untreated or liquid waste with total organic carbon content (TOC) of more than 6%.

Any wastes destined for landfill have to undergo 'treatment'. This involves the following:

- physical / thermal / chemical or biological process (sorting is explicitly included)
- it must change the characteristics of the waste by either
 - reducing its volume
 - reducing its hazardous nature
 - facilitating its handling or
 - enhancing its recovery

In the case of non hazardous waste:

- physical processing including source separation;
- biological treatment including composting / anaerobic digestion;
- thermal treatment including energy from waste plant.

The landfill site operator requires a Waste Pre-treatment Confirmation Form to accompany the waste and this describes what has been done to the waste prior to its receipt at the landfill site.

The UK Government is also very keen to increase the amount of energy obtained from wood sources, including waste wood and this is a key aim in the UK's renewable energy programmes.

The EU Waste Framework Directive (75/442/EEC as amended by 91/156/EEC) defines the term "waste" as "any substance or object in the categories set out in Annex 1 of the directive which the holder discards or intends or is required to discard".

The Waste Framework Directive (75/442/EEC) as amended controls the recovery and disposal of waste. The Hazardous Waste Directive supplements these requirements with additional controls for hazardous waste. Originally these were transposed into the Special Waste Regulations made under Part 2 of the 1990 Environmental Protection Act. As a consequence of an unfavourable ruling by the European Courts the Special Waste Regulations were replaced by the Hazardous Waste Regulations. The term 'Special Waste' is only used in Scotland.

In all aspects of waste management there is a recognised hierarchy for preventing waste where possible and making more sustainable use of any waste which is produced.

- Reduce / minimise waste generation
- Re-use waste materials
- Recycle waste materials
- Recovery (e.g. energy recovery, composting)
- Disposal (incineration without energy recovery, landfill)

Disposal is the least favoured of the above options.

The potential use of waste is not only influenced by its categorisation and assessment of risk in terms of disposal or re-use, but also by the legislation which determines how the waste may be utilised to recover its embodied energy.

4. Duty of care for the disposal of waste

All producers of waste, including householders, have a duty of care to ensure their waste is passed on to an authorised person.

The Waste (Household Waste) Duty of Care (England and Wales) Regulations 2005 SI No.2900 requires householders to take reasonable measures to ensure that the household waste produced on their property is passed to an authorised person. The local authority could represent the authorised person and other authorised persons include the holder of a waste management licence and registered waste carriers.

Other parts of the UK have equivalent legislation.

A business has a duty to ensure that any waste produced is handled safely and within the law. This is the 'duty of care'. It applies to anyone who produces, imports, transports, stores, treats or disposes of controlled waste from business or industry. Commercial, industrial and household wastes (including hazardous/special wastes) are classified as 'controlled waste'. If for example you have hired builders, gardeners or scrap metal merchants who take materials away from your house and these materials get fly-tipped, you could be liable and fined. Or, for example, you hire builders and allied trades or landscape gardeners and they are removing waste from your property these people normally need a waste carrier registration unless they themselves have hired an authorised person to take away the waste on their behalf.

The duty of care also applies to anyone that acts as a waste broker.

You must check that anyone that you pass your waste on to is authorised to take it. If you don't check that they are authorised to take your waste and it is illegally disposed of, you could be held responsible.

The people you pass your waste on to could include:

- waste contractors
- scrap metal merchants
- recycling companies
- your local council
- skip hire companies.

The duty of care has no time limit. It extends until the waste has either been finally disposed of or fully recovered.

In order to meet your Duty of care you must ensure that:

- you store and dispose of all your waste responsibly
- your waste is only handled or dealt with by people or businesses that are authorised to do so
- you keep records of all waste that you transfer or receive for at least two years.

You have a responsibility to:

- stop anyone storing, disposing of or recovering your waste unless they have an environmental permit (England and Wales), a waste management licence (Northern Ireland and Scotland), or an exemption. Check their permit, licence or exemption to make sure that they are within its conditions.

- package all waste materials appropriately and robustly to stop them escaping from your, or anyone else's, control.
- ensure that your waste is only transferred to a person or business authorised to deal with your particular type of waste.
- ensure that the waste being transferred is accompanied by a written description that will enable anyone receiving it to dispose of it or handle it safely and appropriately.

Who is allowed to deal with your waste?

You can arrange for your waste to be taken away by a waste carrier or you can take it to a waste management site yourself.

If you arrange for your waste to be taken away by a waste carrier, you must check that they are authorised to take your waste.

You must ensure that anyone removing waste from your business is one of the following:

- a registered carrier of controlled waste
- exempt from registration as a carrier of controlled waste
- a waste collection authority in England and Wales
- a district council in Northern Ireland
- a waste disposal authority in Scotland.

A registered carrier should be able to produce a current certificate of registration or a certified copy if you ask to see it. This certificate will show when their registration expires. Be aware that a photocopy does not provide evidence of registration – you should ask to see the original or a certified copy. You can take a photocopy for your records, date it and write on it that you have seen the original.

You can also check the public registers held by your environmental regulators to see if your carrier is registered.

- Environment Agency: Public registers
- NIEA¹: Registered waste carriers and transporters
- SEPA²: Registered carriers, brokers and professional collectors and transporters

Notes

1. Northern Ireland Environment Agency
2. Scottish Environment Protection Agency

Waste carriers do not have to register for certain activities. If your carrier claims to be exempt you must ask for proof.

Waste Management Sites

You can take most waste produced by your own business directly to a waste management site, without registering as a waste carrier. You still have to comply with your duty of care and complete a waste transfer note.

However, if you carry your own building or demolition waste you will need to register with your environmental regulator.

You must ensure that your waste is disposed of at a suitably licensed or exempt facility. You are responsible for making sure your waste is finally and properly disposed of or fully recovered.

You must ensure that anyone who treats, stores or disposes of your business waste has an appropriate environmental permit, waste management licence or exemption certificate.

When you look at an environmental permit, a waste management licence, an exemption or PPC permit, always check that the site is authorised to take all the types of waste materials that you are planning to send there.

If you return containers or other materials to a supplier, check if they are being reprocessed or disposed of. If they are being reprocessed or disposed of, check that your supplier is a registered waste carrier. Ask to see their certificate of registration.

You should also check that they hold an environmental permit (England and Wales) or a waste management licence (Northern Ireland and Scotland) if applicable. Ask to see a copy of the permit, licence or exemption certificate, or check with your environmental regulator.

You should repeat these checks regularly, as registrations and authorisations can expire or be revoked.

Records for receiving and transferring waste: waste transfer notes

A Waste Transfer Note (WTN) is a document that must accompany any transfer of waste between different holders. The purpose of a WTN is to allow other people who handle your waste to know what they are dealing with so that they can manage it safely and properly.

You must create a WTN for each load of waste that leaves your site. For repetitive transfers, you can use a 'season ticket', i.e. one transfer note will cover multiple transfers over a given period of time of up to 12 months. However, you can only use a season ticket if the parties involved in each transfer are the same and the description of the waste transferred remains the same.

The WTN must contain enough information about the waste to enable anyone coming into contact with it to handle it safely, and either dispose of it or allow it to be recovered within the law. If you don't give enough information you may be prosecuted.

In England and Wales, you should describe the quantity and types of each different waste being transferred on the WTN, both in words and by using the appropriate codes in the List of Wastes (England) Regulations 2005 and the List of Wastes (Wales) Regulations 2005.

You should never rely on waste carriers or waste management contractors to describe your waste for you on WTNs. As the producer, you are in the best position to describe your waste accurately. It is not acceptable to use non-specific terms, e.g. 'general waste' or 'inert waste'.

Both you and the waste carrier must sign the WTN before the waste leaves your site. If you transport waste yourself, you and the operator of the waste management site who you hand your waste over to must sign the WTN. If you use a waste broker, you must ensure that they are registered.

Documentation for hazardous / special waste

The transfer documentation for hazardous/special waste is called a 'consignment note'. If your waste has hazardous properties, you may need to treat it as hazardous/special waste. In this case, you need to complete a consignment note to comply with your duty of care. The consignment note must contain similar information to a WTN. A separate WTN is not required.

Waste that is defined by the European Waste Catalogue (EWC) as hazardous can only go to a waste treatment facility that is licensed to receive hazardous waste.

5. Duty of care for the disposal of waste wood preservative processing wastes - waste management options

The table below provides management options for timber treatment waste derived from the processing of wood with wood preservatives in industrial timber treatment plants.

TYPICAL WASTE STREAMS	WASTE MANAGEMENT OPTIONS
Contaminated wrappings from packs of timber**	BY REDUCTION (of amount generated) Removal before treatment
Sludge /dirt and contaminated sawdust**	Locate plant in building / stabilise yard surfaces / clean timber before treatment
Contaminated rainwater**	Cover plant and post treatment conditioning area
Post treatment drippings**	Slope packs in vessel / optimise treatment cycle / leave in vessel
Off cuts (potentially Hazardous Waste)	Cut timber to size before treatment
Product loss from the plant**	Repair leaking valves, door seals, pumps
Redundant treatment solution**	Check option of another plant using up the product
Collected post treatment drippings**	BY REUSE (putting materials back into circulation) Return to plant storage tanks
Use products wherever possible with recyclable packaging**	Products supplied in IBCs (bulk containers)
Timber bearers used on bogies**	Reuse/fit metal bearers
IBCs/other recyclable packaging	BY RECYCLING Collection/disposal for recycling as soon as product used
Unused treatment solution	Operate plant so unused product is recovered at the end of the treatment cycle and can be recycled for use
Separate components e.g. wood/paper from metal/or from inert waste	BY RECOVERY (Recycling/Composting/ Incineration with energy recovery) Sort out and collect in designated containers
Untreated wood waste	Sell for wood fibre recovery / energy generation / composting

*** these wastes may be hazardous wastes*

6. The Hazardous Waste Regulations 2005

The relevant legislation for England and Wales are The Hazardous Waste (England and Wales) Regulations 2005, SI 2005 No. 894 and The List of Wastes (England) Regulations 2005 SI No.895 and there is corresponding legislation for Scotland and Northern Ireland. Please see the Bibliography on page 18.

The Hazardous Waste Regulations (HWR) implemented the Hazardous Waste Directive (HWD) (91/689/EEC), as amended by Council Directive 94/31/EC. They replaced the Special Waste Regulations 1996 and the special waste regime set out in Part 2 of the 1990 Environmental Protection Act.

The HWR set out the rules for assessing if a waste is hazardous or not.

The HWR contains three Schedules.

Schedule 1 – sets out Annex I of the HWD categories or generic types of hazardous waste as listed according to their nature or activity which generated them; e.g. this includes 3: Wood preservatives.

Schedule 2 – sets out Annex II constituents of waste which render them hazardous waste when they have properties described in Annex III, e.g. this includes chromium VI, copper compounds, arsenic and arsenic compounds, tin compounds, biocides,

Schedule 3 – sets out in the Annex physico / chemical, toxicological and ecotoxicity properties which render them hazardous).

As part of the assessment of waste, the HWR refers you to the 'List of Wastes', given in the List of Wastes Regulations (LoWR). This list is also known as the European Waste Catalogue (EWC).

Requirements of the Hazardous Waste (England and Wales) Regulations 2005 and Domestic Waste

The term 'domestic' is not defined in the regulations and therefore takes the meaning set out in the Hazardous Waste Directive.

Article 1(5) of the directive excludes hazardous domestic waste from the requirements of the directive.

Domestic waste can contain relatively small amounts of hazardous waste. Where such mixed waste is collected in the normal door to door domestic waste collection it is excluded from the directive. Householders do not need to provide consignment notes for any waste they produce. Where domestic hazardous waste has been separated from mixed domestic waste and is under the control of a waste collection or disposal authority it is no longer excluded. Once separated, the separated hazardous waste must be treated as a separately collected fraction and the hazardous waste regulations will apply.

7. List of Waste Regulations

The List of Wastes Regulations 2005 (LoWR) applies to England only and effectively reproduces the Consolidated European Waste Catalogue. It is a harmonized list of wastes. Other parts of the UK have their own equivalent legislation.

The List of Wastes refers to substances being hazardous if they contain dangerous substances. A substance is a dangerous substance if it is a dangerous substance by way of the Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 (S.I. 2002/1689), as amended by S.I. 2004/36 which implement the Dangerous Substances Directive (67/548/EEC) in Great Britain.

The CHIP Regulations The Chemicals (Hazard Information and Packaging for Supply) Regulations have been amended because of the adoption and entry into force of the European Regulation on the Classification, Labelling and Packaging of Substances and Mixtures (known as the CLP Regulation). The CLP Regulation adopts in the EU, the internationally agreed Global Harmonized System on the classification and labeling of chemicals, known as GHS.

CHIP 4 has been published (SI 2009 / 716) and came into force 6th April 2009 to cover the transitional period under the CLP regulation

The Dangerous Substances Directive (67/548/EEC) has now been repealed and so the UK List of Wastes Regulations (LoWR) may be modified to refer to CHIP 4 / CLP.

8. Waste streams of potential relevance to wood preservation

The following sections have been abstracted from the European Waste Catalogue.

Chapter 2	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing	
02 01	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing	
02 01 07	Wastes from forestry	
Chapter 3	Waste from wood processing and the production of panels and furniture, pulp, paper and cardboard	
03 01	Waste from wood processing and the production of panels and furniture	
03 01 01	Waste bark and cork	
03 01 04*	Sawdust, shavings, cuttings, wood, particle board and veneer containing dangerous substances	M
03 01 05	Sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04	
03 01 99	Wastes not otherwise specified	
03 02	Wastes from wood preservation	
03 02 01*	Non-halogenated organic wood preservatives	A
03 02 02*	Organochlorinated wood preservatives	A
03 02 03*	Organometallic wood preservatives	A
03 02 04*	Inorganic wood preservatives	A
03 02 05*	Other wood preservatives containing dangerous substances	M
03 02 99	Wood preservatives not otherwise specified	
03 03	Wastes from pulp, paper and cardboard production and processing	
03 03 01	Waste bark and wood	
Chapter 6	Wastes from Inorganic Chemical Processes	
06 03	Wastes from the manufacture, formulation, supply, and use (MFSU) of salts and their solutions and metallic oxides	
06 03 13*	Solid salts and solutions containing heavy metals	M
06 03 15*	Metallic oxides containing heavy metals	M
06 04	Metal-containing wastes other than those mentioned in 0603	
06 04 03*	Wastes containing arsenic	M
06 13	Wastes from inorganic chemical processes not otherwise specified	
06 13 01*	Inorganic plant protection products, wood-preserving agents and other biocides	A
Chapter 7	Wastes from Organic Chemical Processes	
07 04	Wastes from the MFSU or organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides	
07 04 01*	Aqueous washing liquids and mother liquors	A
07 04 03*	Organic halogenated solvents, washing liquids and mother liquids	A
07 04 04*	Other organic solvents, washing liquids and mother liquids	A
07 04 07*	Halogenated still bottoms and reaction residues	A
07 04 08*	Other still bottoms and reaction residues	A
07 04 10*	Other filter cakes and spent absorbents	A
07 04 11*	Sludges from on-site effluent treatment containing dangerous substances	M
07 04 12	Sludges from on-site effluent treatment other than those mentioned in 07 04 11	
07 04 13*	Solid wastes containing dangerous substances	M
07 04 99	Wastes not otherwise specified	

Chapter 15	Waste packaging: absorbents, wiping cloths, filter materials and protective clothing not otherwise specified	
15 01	Packaging (including separately collected municipal packaging waste)	
15 01 03	Wooden packaging	
15 01 10*	Packages containing residues of or contaminated by dangerous substances	M
Chapter 17	Construction and demolition wastes (including excavated soil from contaminated sites)	
17 02	Wood, glass, plastic	
17 02 01	Wood	
17 02 04*	Glass, plastic, wood containing or contaminated with dangerous substances	M
Chapter 19	Wastes from waste management facilities, off-site waste water treatment plants and the water industry	
19 12	Waste from the mechanical treatment of waste (e.g. sorting, crushing, compacting, palletising) not mentioned elsewhere in the list	
19 12 06*	Wood containing dangerous substances	M
19 12 07	Wood other than that mentioned in 19 12 06	
Chapter 20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions	
20 01	Separately collected fractions(except 1501)	
20 01 37*	Wood containing dangerous substances	M
20 01 38	Wood other than that mentioned in 20 01 37	
20 02	Garden and park wastes (including cemetery waste)	
20 02 01	Biodegradable waste	

"Absolute Entries" Hazardous waste regardless of any concentration are notated as A

"Mirror Entries" Hazardous waste only if dangerous substances are present above threshold concentrations are notated as M

Waste streams containing treated wood can be described as those:-

Small quantities of waste generated at the time of manufacture or the installation of currently treated wood components:

- whose constituents are easy to determine and develop protocols for its management

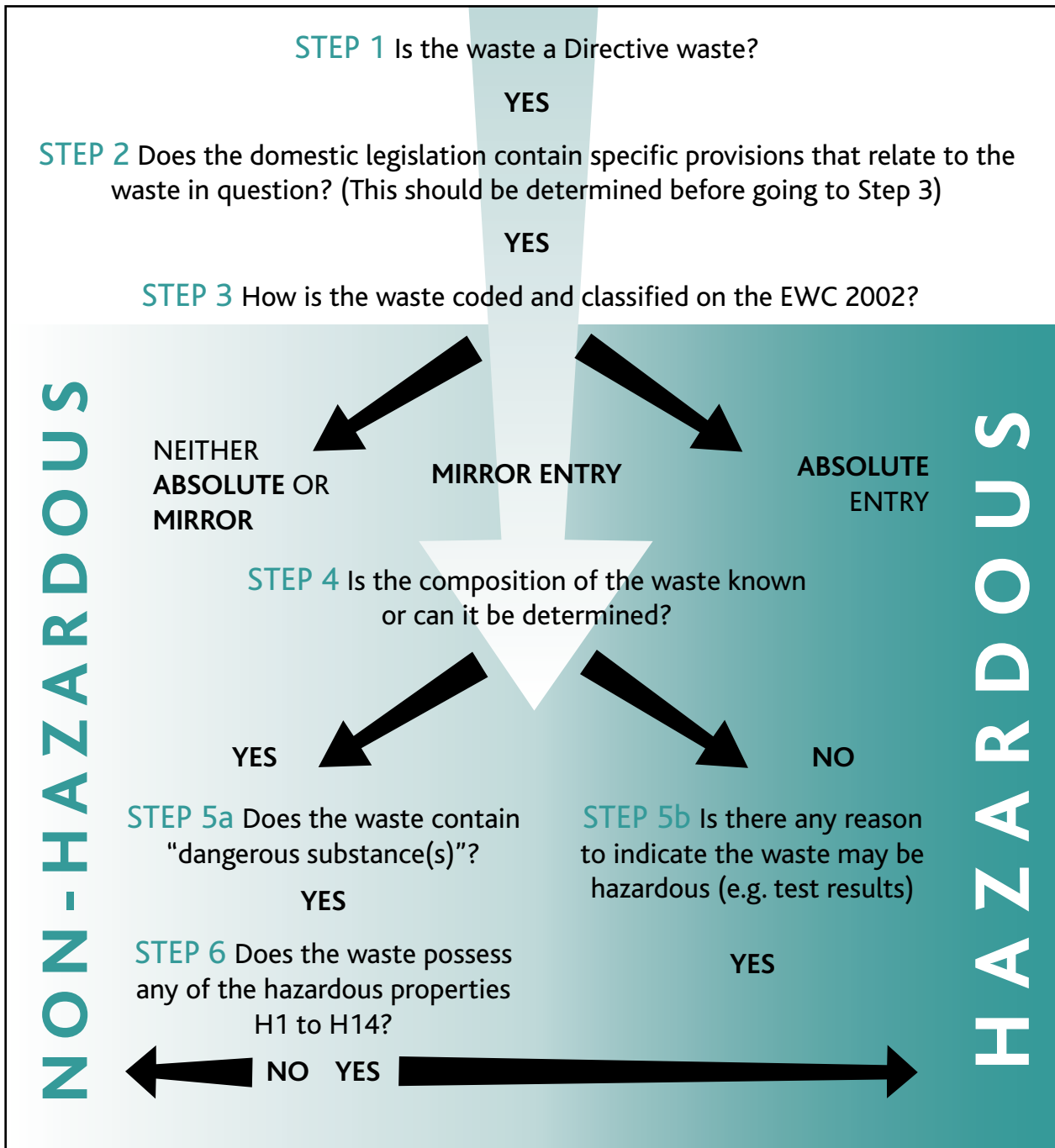
Historically treated, for example construction demolition and industry waste from timbers taken out of service and from collections made at civic amenity sites typically including:

- construction timbers whose wood preservative content will depend on the age of the house. The timbers include roof timbers / external joinery / fascias / fencing panels. All of these wastes have less potential for reuse of the timber.
- internal timbers, floors, joists, skirting, architraves – limited amount of pre-treatment carried out. These have the greatest potential for reuse.
- packaging and pallet timbers

Appendix 2 is a table containing details of the wood preservative active substances which may have been used to treat the wood and which may or may not continue to contain them at the time of disposal.

9. Hazardous waste assessment framework and methodology for preservative treated wood waste

This section provides more detailed guidance on the interpretation and classification of hazardous waste as applied to the wood preservation industry (reference "Hazardous Waste, Interpretation of the Definition and Classification of Hazardous Waste, Technical Guidance WM2). There is a series of steps involved in determining if a waste is hazardous or non-hazardous. These steps are set out in the following flowchart:



Some further notes on each step shown on the previous page.

Step 1: Is the waste a Directive waste?

As defined by Council Directive 75/442/EEC on waste

Step 2: Does the domestic legislation contain specific provisions that relate to the waste in question?

Domestic waste is excluded from the requirements of the HWD. Guidance on what constitutes 'domestic waste' and how regulatory controls are applied to it is available from each of the Joint Agencies.

Step 3: How is the waste coded and classified on the EWC 2002?

The EWC 2002 details a series of steps for identifying wastes in the catalogue and the order in which entries in the catalogue must be considered.

"Absolute Entries" (A)

A number of wastes marked with an asterisk (*) are deemed to be hazardous regardless of their composition or concentration of any 'dangerous substance' within the waste.

"Mirror Entries" (M)

Some wastes have the potential to be either hazardous or non-hazardous depending on their actual composition and the concentrations of "dangerous substances" within the waste. These wastes are covered by linked (usually two entries), collectively called "mirror entries".

- a hazardous waste entry marked with an asterisk (*) and
- an alternative non-hazardous waste entry not marked with an asterisk

The majority of hazardous "mirror entries" are easily identified because they make a general reference to "dangerous substances" and include the phrase "containing dangerous substances" in the description e.g.

030202 Organochlorinated wood preservatives:	A
030205 Other wood preservatives containing dangerous substances:	M

"Non-hazardous Entries"

This is where a waste is listed in the EWC 2002 without an asterisk, it is non-hazardous. However where the non-hazardous entry forms part of a "mirror entry", assessment it is required to determine whether the hazardous or non-hazardous waste entry is applicable

Step 4: Is the composition of the waste known or can it be determined?

The simplest method of identifying whether a "mirror entry" waste is hazardous is to identify the chemical composition of the waste and then determine if the concentration of the chemicals within the waste are sufficient to render the waste hazardous.

Information from the Safety Data Sheets of wood preservatives should be sufficient to carry out this assessment.

However, where the composition of the waste is not known alternatives such as testing or using the precautionary principle should be used.

Step 5a: Does the waste contain "dangerous substance(s)"?

There are three ways to determine if the substances in a "mirror" entry are dangerous:

1. Use Table 3.2 of Part 3 of Annex VI of Commission Regulation 1272/2008. This shows hazard information and classification for many common chemicals. If the waste contains substances on this list this classification must be used.
2. Use the methodology given in the Commission Regulation 1272/2008 with data for the substance from peer reviewed sources.
3. Use the information from the Safety Data Sheets or other data sources to determine whether the waste contains dangerous substances.

The classification of the substance(s) shows:

- categories of danger exhibited by the substance; and
- risk phrase(s), which describe the hazards the substance possesses.

If none of the substances in the waste are classified as "dangerous substances", the waste will not be hazardous and the non-hazardous EWC code can be used.

Step 5b: Is there any reason to indicate the waste may be hazardous (e.g. test results)

Waste holders have a duty to determine if a "mirror entry" waste is hazardous. Where:

- there are reasons to indicate the waste may be hazardous, such as test results, knowledge of the production process or the raw materials used; and / or
- the composition of a waste is not known, cannot be determined or is insufficient to allow classification using Table 3.2 of Part 3 of Annex VI of Commission Regulation 1272/2008 or other sources (and considering worst case compounds).

If the waste needs to be tested to determine if it possesses any hazardous properties the Agencies consider that there are two options:

- perform a surrogate non-mammalian biological effect test; or
- if no means of non-mammalian testing is available, do not test but ascertain from the producer or other previous waste holders, information on the waste before you assume the waste is hazardous.

The HWD identifies the test methods in Annex V of Directive 67/548/EEC as the methods to be used to test for hazardous properties. However Directive 67/548/EEC has been repealed and the test methodology can be found in Commission Regulation 1907 / 2006.

Step 6: Does the waste possess any of the hazardous properties H1 to H14?

In order for a waste identified by a "mirror entry" to be hazardous it must 'display' a hazardous property as listed below.

Hazardous Properties	
H1	"Explosive": substances and preparations which may explode under the effect of flame or which are more sensitive to shocks or friction than dinitrobenzene.
H2	"Oxidising": substances and preparations which exhibit highly exothermic reactions when in contact with other substances, particularly flammable substances.
H3A	"Highly Flammable" <ul style="list-style-type: none"> - liquid substances and preparations having a flashpoint of below 21°C (including extremely flammable liquids), or - substances and preparations which may become hot and finally catch fire in contact with air at ambient temperature without any application of energy, or - solid substances and preparations which may readily catch fire after brief contact with a source of ignition and which continue to burn or to be consumed after removal of the source of ignition, or - gaseous substances and preparations which are flammable in air at normal pressure, or - substances and preparations which, in contact with water or damp air, evolve highly flammable gases in dangerous quantities.
H3B	"Flammable" : liquid substances and preparations having a flashpoint equal to or greater than 21°C and less than or equal to 55°C.
H4	"Irritant": non-corrosive substances and preparations which, through immediate, prolonged or repeated contact with the skin or mucous membrane, can cause inflammation.
H5	"Harmful": substances and preparations which, if they are inhaled or ingested or if they penetrate the skin, may involve limited health risks.
H6	"Toxic": substances and preparations (including very toxic substances and preparations) which, if they are inhaled or ingested or if they penetrate the skin, may involve serious, acute or chronic health risks and even death.
H7	"Carcinogenic: substances and preparations which, if they are inhaled or ingested or if they penetrate the skin, may induce cancer or increase its incidence.
H8	"Corrosive": substances and preparations which may destroy living tissue on contact.
H9	"Infectious": substances containing viable micro-organisms or their toxins which are known or reliably believed to cause disease in man or other living organisms.
H10	"Toxic for reproduction": substances and preparations which, if they are inhaled or ingested or if they penetrate the skin, may produce or increase the incidence of non-heritable adverse effects in the progeny and/or of male or female reproductive functions or capacity.
H11	"Mutagenic": substances and preparations which, if they are inhaled or ingested or if they penetrate the skin, may induce hereditary genetic defects or increase their incidence.
H12	Substances and preparations which release toxic or very toxic gases in contact with water, air or an acid.
H13	Substances and preparations capable by any means, after disposal, of yielding another substance, e.g. a leachate, which possesses any of the characteristics listed above.
H14	"Ecotoxic": substances and preparations which present or may present immediate or delayed risks for one or more sectors of the environment.

EWC 2002 states that "Toxic for reproduction" is considered to be in line with the hazardous property H10 "Teratogenic" in the HWD.

There are two methods of determining if a "mirror entry" waste is hazardous or not. These are:

- calculating whether the hazardous property is appropriate by referring to a threshold limit for a particular risk phrase; or
- testing to prove whether a particular hazardous property is present or not.

Calculating

For the majority of wood preservation industry wastes the most appropriate method is to identify the hazardous constituents/chemicals in the waste and then to use their concentrations in the waste to identify whether they confer hazardous properties on the waste:

- if a waste contains dangerous substances(s) at a concentration at or above a threshold concentration for any of the hazardous properties H1 to H14, the waste will be hazardous and is categorised as the hazardous "mirror entry".
- if a waste contains a dangerous substance(s) at a concentration below the threshold for all of the hazardous properties, the waste will not be hazardous and is categorised as the non-hazardous "mirror entry".

Threshold concentrations are set out in technical guidance WM2 and an assessment methodology for each hazardous property is set out in Appendix C and includes;

- definition of the hazardous property;
- relevant risk phrases;
- a flow diagram setting out the assessment process for that hazardous property; and
- information on test methods.
- thresholds

If a substance in the waste possesses any of the hazardous properties H4 – H8 then their concentrations in the waste should be compared with the threshold concentration.

Testing

As discussed in Step 5b, sometimes testing may be the only option to determine whether a waste is hazardous because of the complex nature of a waste. However, this will not be the case for treated wood waste if the composition or type of the used wood preservative is known. If testing is required refer to the detailed guidance in technical guidance WM2.

Appendix 1

Generic Classifications of Hazardous Wastes (or Special Wastes in Scotland)

Code	Description of Waste	Absolute (A) Mirror entry (M)	Hazardous
WOOD PRESERVATIVE PRODUCT			
03 02 05*	Copper based + organic biocide concentrate product	M	Yes
03 02 05*	Copper based + organic biocide 5% w/w product	M	Yes
03 02 05*	Copper based + quat concentrate product	M	Yes
03 02 05*	Copper based + quat 5% w/w product	M	Yes
03 02 01*	Creosote Oil (Blended) WEI Type B Specification product	A	Yes
03 02 05*	Water based organic biocide concentrate product	M	**
03 02 05*	Water based organic biocide treatment solution	M	**
03 02 01*	Solvent based organic biocide product	A	Yes
03 02 03*	Solvent based organometallic product	A	Yes
15 01 10*	Packaging containing residues of or contaminated by dangerous substances (anti-sapstain control products)	M	**
TREATED TIMBER WASTES			
17 02 04*	CCA treated wood waste at 4 kg/m ³	M	Yes
17 02 04*	CC treated wood waste at 16 kg/m ³	M	**
17 02 04*	Cu treated wood waste containing 8 kg/m ³	M	**
17 02 04*	Waste wood treated with water based organic biocide preservative	M	**
17 02 04*	Waste wood treated with solvent based organic biocide preservative	M	**
17 02 04*	Waste wood treated with solvent based organometallic biocide preservative	M	**
17 02 04*	Waste wood treated with Creosote Oil	M	Yes

** The classification must be calculated in accordance with the steps set out in Section 10 of this document. The first edition of this Guidance Document included generic classifications for all waste types but changes in the legislation now means in most cases that without knowing the exact composition of a product and its concentration in the waste the waste classification cannot be determined.

Appendix 2

The table on page 16 provides information which could help in the identification of the substances which may have been used to treat a variety of wood products and which could be present in the waste stream. The list of substances is not exhaustive but includes those most commonly used in the 50 years.

The table also provides information on the depth of penetration of the wood preservative product achieved at the time of treatment.

¹ Pink – up to full sapwood penetration. These waste streams are easily separated and managed.

² Green - depth of penetration up to 3mm lateral in sapwood

³ Brown – up to full sapwood penetration

Product abbreviations:

CCA chromated copper arsenate

TBTO bis tributyltin oxide

PCP pentachlorophenol

Na TCP sodium trichlorophenolate

OPP ortho phenylphenol

Appendix 2: Table of substances used to treat wood

	Wood Product	CCA	Creosote	TBTO	PCP	Na TCP /OPP	Dieldrin	Lindane	Copper Organic inc. quats	Propiconazole	Tebuconazole	Borate	Permethrin
Active substance placed on Mkt		1950's	1900's	1960's	1960's	1950's	1960's	1960's	1990	1990	1990	1960's	1980's
Active substance Removed from Mkt		2006	Limited use from 2007	2006	2006	?	Approx. 1985	Approx 1985	2000				
Construct/ demolition	Cooling tower fill1	✓											
	Highways fencing / sleepers/ poles1	✓	✓										
	Roof timbers2	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	
	Floors / joists2	✓	✓	✓	✓		✓	✓					
	Exterior joinery / windows / doors / frames2			✓	✓		?	?		✓	✓		
	Framing timbers3	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
	Fencing incl panels3	✓	✓	✓	✓	✓			✓				
Internal timbers	Doors / frames / architraves												
	Cupboards / units wardrobes												
Likely Hazardous waste classification		Yes	Yes										

Appendix 3

Re-use of treated wood

In many situations the re-use of treated wood which has fulfilled its first or subsequent service life is a preferred option.

Commission Directive 2006 /139/EEC amended the 2003/2/ EEC directive regarding the marketing and use of arsenic. The new text made little practical change to the 2003 directive which placed restrictions on the use of CCA treated wood and on its second hand use

CCA-treated wood and creosote-treated wood are both subject to restrictions in use under the Marketing and Use Directive implemented in the UK as SI 2003 No. 1511, for Creosote (The Creosote (Prohibition on Use and Marketing) Regulations 2003) and for CCA as SI 2003 No. 3274 (The Environmental Protection (Controls on Dangerous Substances) Regulations 2003) and Northern Ireland SR No. 548 (The Marketing and Use of Dangerous Substances (No. 4) Regulations (Northern Ireland) 2003). Any re-use of such treated timbers should, therefore, take into account such restrictions as follows.

(i) Creosote-treated wood

SI 2003 No. 1511 states that creosote-treated timber may be supplied for second-hand use, but not for use in the following restricted end-uses:

- inside buildings
- in toys
- in playgrounds
- in parks, gardens and outdoor leisure facilities where there is a risk of frequent skin contact
- in the manufacture of garden furniture such as picnic tables
- for the manufacture and use and any re-treatment of :
containers intended for growing purposes
packaging that may come into contact with raw materials, intermediate or finished products destined for human and/or animal consumption
other materials which may contaminate the products mentioned above

Sellers/Suppliers of creosote-treated timber for re-use are advised to pass on appropriate guidance on use of their products and must take responsibility for the advice they give. Advice is available from the Wood Protection Association and on its website www.wood-protection.org

(ii) CCA-treated wood

CCA-treated wood may be placed on the market for a second time for professional and industrial use provided that the structural integrity of the wood is required for human or livestock safety and skin contact by the general public during its service life is unlikely:

- as structural timber in public and agricultural buildings, office buildings, and industrial premises;
- in bridges and bridgework;
- as constructional timber in freshwater areas and brackish waters e.g. jetties and bridges;
- as noise barriers;

- in avalanche control;
 - in highway safety fencing and barriers;
 - as debarked round conifer livestock fence posts;
 - in earth retaining structures;
 - as electric power transmission and telecommunications poles;
 - as underground railway sleepers.
- iii) Treated wood referred to above may not be used:
- in residential or domestic constructions, whatever the purpose;
 - in any application where there is a risk of repeated skin contact;
 - in marine waters;
 - for agricultural purposes other than for livestock fence posts and structural uses in accordance with (ii) above;
 - in any application where the treated wood may come into contact with intermediate or finished products intended for human and/or animal consumption.

Within the Regulations there is also a requirement for CCA treated timber placed on the market to be labelled.

All CCA treated timber placed on the market must be individually labelled using the following words:

A

For professional and industrial installation and use only, contains arsenic

In addition, CCA treated wood placed on the market in packs shall also be labelled:

B

**Wear gloves when handling this wood.
Wear a dust mask and eye protection when cutting or otherwise crafting this wood.
Waste from this wood shall be treated as hazardous by an authorised undertaking**

Responsibility for labelling should cascade down the supply chain. If you sell a pack of timber it can be regarded as an individual item and you must label it with both text A and B.

If the pack is broken down into small packs each pack must be labelled in the same way.

NOTE

CCA-treated wood removed from domestic and residential uses may not be adequately protected for re-use into the permitted end-uses described above. It is the sellers/suppliers responsibility to pass on appropriate guidance on the use of their products.

Bibliography

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Hazardous Waste Directive, Council Directive 91/689/EC.

European Waste Catalogue 1994, EWC 1994, Commission Directive 94/3/EC (Council Directive 94/904/EC (as amended by 91/156/EC)).

Hazardous Waste List, Council Decision 94/904/EC.

European Waste Catalogue 2002, EWC 2002, Commission Decisions 2000/532/EC, 2001/118/EC and subsequent amendments.

Regulation (EC) No 1907/2006 concerning REACH etc

Regulation (EC) No 1272/2008 on the classification, labelling and packaging of substances and mixtures

The Waste (Household Waste) Duty of Care (England and Wales) Regulations 2005 SI. No.2900

The Landfill (England and Wales) Regulations 2002 S12002 No. 1559.

The Pollution Prevention and Control (England and Wales) Regulations 2000 (PPC Regulations).

Hazardous Waste Incineration Directive, Directive 2000/76.

Interpretation of the definition and classification of hazardous waste. Technical Guidance WM2, Environment Agency, Scottish EPA, EHS, (Northern Ireland).

The Control of Pesticides Regulations (as amended) 1986.

European Council Directive 67/548/EEC on Dangerous Substances.

The Creosote (Prohibition on Use and Marketing) Regulations 2003 SI No.1511

The Environmental Protection (Controls on Dangerous Substances) Regulations 2003 SI No. 3274

The Chemicals (Hazards Information and Packaging for Supply) Regulations 2009 SI 2009 / 716

Devolved legislation: waste legislation relevant to hazardous waste for each part of the uk and northern ireland

England and Wales

Environment Protection Act 1990

Hazardous Waste (England and Wales) Regulations 2005 SI 894

Hazardous Waste (Wales) Regulations 2005 SI 1806

List of Wastes (England) Regulations 2005 SR 301

List of Wastes (England) Amendment Regulations 2005 SI 1673

List of Wastes (Wales) Regulations 2005 SI 1820

Northern Ireland

Hazardous Waste (Northern Ireland) Regulations 2005 SR 300

Hazardous Waste (Amendment) (Northern Ireland) Regulations 2005 SR 461

List of Wastes (Northern Ireland) Regulations 2005 SR 301

List of Wastes (Amendment) Regulations (Northern Ireland) 2005 SR 462

Waste and Contaminated Land (Northern Ireland) Order 1997 SI 2778

Scotland

Environmental Protection Act 1990

Special Waste Regulations 1996 SI 972

Special Waste (Amendment) Regulations 1996 SI 2019

Special Waste (Amendment) Regulations 1997 SI 251

Special Waste (Scotland) Regulations 1997 SI 257

Special Waste (Scotland) Regulations 2004 S SI 112

Special Waste Amendment (Scotland) Amendment Regulations 2004 S SI 204



www.wood-protection.org

Support the work of the WPA

The Wood Protection Association (WPA) is a not for profit technical and advisory body interested in the development and promotion of timber protection technology in the UK. The Association acts as a technical adviser to British and European Standards setters and is actively involved in the preparation and revision of the Standards, Guidance Notes and Codes of Practice that relate to the preservative pre-treatment, modification and flame retardant protection of wood.

On regulatory affairs the WPA enjoys lead body status with government agencies like the Health & Safety Executive, Environment Agency, Scottish Environmental Protection Agency and Defra (Department of Environment, Food & Rural Affairs).

The WPA defends and promotes the generic benefits of wood protection in enabling timber to be utilised as the most cost effective, sustainable and environmentally acceptable construction material.

The work of the WPA benefits every business with a commercial interest in wood. It is not a role that can be performed by an individual company or other non science-based trade association. Funding is provided from membership subscriptions and the more we grow in numbers, the more effectively we can benefit the industry.



www.wood-protection.org

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