

An environmental solution: Potential Savings on Waste Disposal in the EU

Low bio-persistent Superwool® high temperature insulation fibres has health and performance advantages for EPCs, End Users and Installers alike.

Morgan Advanced Materials is committed to protecting the environment by minimizing the impact of our operations and our products through continuous improvement in environmental performance and control.

- Potential savings on waste disposal
- A reduction in CO2 emissions
- Not classified as hazardous under EU waste regulations

Health and Safety - the hazard classification of man-made vitreous (silicate) fibres in the European Union (EU)

In 1997 the European Commission added man-made vitreous (silicate) fibres (MMVFs) to the list of dangerous (hazardous) substances under the European Union Directive 67/548/EEC¹. In 2008 a new regulation - classification, labelling and packaging of substances and mixtures (Regulation (EC) No 1272/2008) came into force with the main aim of bringing EU CLP (Classification, Labelling of Packaging) into line with GHS. (Global Harmonised System).

For high temperature insulation wools, this regulation classified Refractory Ceramic Fibres (RCFs) as category 1b carcinogens² and exonerates the low bio-persistent Superwool range of products from any carcinogen and skin irritancy classification.

The consequences of carcinogen hazard classification in the European Union

Classification of RCFs in the European Union as category 1b carcinogens triggers several downstream regulations both across the European Union and in individual Member States. These require measures to be taken by Member States to restrict the use of and control exposures to RCFs in order to minimise possible adverse impacts to human health and the environment.

The measures include:

- Prohibiting manufacturers and suppliers from placing RCFs on the market for use by the general public (Directive 76/769/EEC).
- Requiring employers using RCFs to seek a substitute which would present a lower risk to the health of workers, or where not technically feasible to contain the RCFs and implement measures to reduce occupational exposure to the lowest technically achievable (Directive 2004/37/EC).
- Handling and disposing of RCF hazardous waste from manufacture and use by a licensed waste contractor and in an appropriately licensed special waste landfill (Directives 91/689/EEC and 1999/31/EC).
- They do not apply to the low bio-persistent Superwool range of products³.

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Why low bio-persistent Superwool® products?

For many years both the EU (ECFIA⁴, www.ecfia.eu) and USA (HTIWC, www.htiwcoalition.org) high temperature insulation wool industry associations have had Product Stewardship Programmes, which include:

- Human effects research: such as sponsoring human health surveys and research on the biological effects of fibres.
- Exposure assessment: study of workplace controls and workplace monitoring.
- These aspects of product stewardship in Europe are known as the CARE programme for Controlled And Reduced Exposure.
- Product research: the search for new materials which might release less dust or meet the requirements for exoneration from carcinogenic classification.
- Special studies: research on such subjects as waste, production of communication bulletins on the above efforts, material safety data sheets, safe handling guidelines etc.

The development and marketing of low bio-persistent Superwool fibres is a result of Morgan Advanced Materials' commitment to these Product Stewardship Programmes.

Waste disposal - low bio-persistent Superwool products may be disposed of in non-hazardous waste landfill

Key points summary

- Disposal of waste materials in EU Member States is controlled by implementation of several Directives.
- Wastes containing more than 0.1 wt% of (RCF) are classified hazardous under Directive 2008/98/EC.

RCF wastes from manufacture and use are required to be handled and disposed of by a licensed waste contractor in an appropriately licensed hazardous waste landfill. Directive 1999/31/EC enables such wastes to be disposed in a non-hazardous waste landfill if leaching tests have shown there is no risk of soil or ground water contamination.

- As responsibility for the implementation for EU waste Directives lies with the individual member states, local regulations are not harmonised and waste disposal restrictions vary widely from country to country.
- In practice, many RCF users have experienced significantly increased costs because local waste disposal sites are not licensed to or prepared to accept hazardous wastes.
- Waste containing low bio-persistent Superwool fibre products may be disposed in a non-hazardous waste landfill.
- Low bio-persistent Superwool products that do not contain an organic binder may be considered as waste glass-based fibrous materials (European Waste Code 10 11 03).

In practice, low bio-persistent Superwool users should experience no difficulty or increased costs for disposing of waste fibre.

This is a clear benefit for Superwool product users compared with RCF users.

Some examples in different countries

1. Low bio-persistent Superwool product waste is considered inert waste in Germany and can be disposed of in a landfill designated for non-hazardous waste according to the landfill ordinance (DepV) §6 and 7 and under §3 of the waste storage ordinance (AbfAbIV).
2. In the UK, the Environment Agency clearly suggests that Superwool products are considered as waste
3. Glass-based fibrous materials as long as they do not contain any organic binder or are not contaminated by other hazardous material.

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Guidelines for handling and disposing of low bio-persistent Superwool® product waste

- Handle the waste with care so that it does not spread. Wetting (dampening only) the waste helps to minimise dust emission.
- Do not allow the waste to accumulate around the workplace.
- In the workplace, dispose of the waste in a suitable closed container or plastic bag as soon as it is produced.
- When full, seal containers or plastic bags before removing for disposal.
- Leaching tests may be required to show that waste will not pollute groundwater or soil. low bio-persistent Superwool product wastes may contain organic materials and/or other contaminants.
- Do not mix low bio-persistent Superwool product waste with hazardous waste.
- The responsibility for waste disposal or treatment remains with the waste producer.
- In most jurisdictions, records must be maintained and provided by the waste contractor / transporter to the landfill to verify disposal.
- Ensure written confirmation is received from the disposal company verifying that the waste has been disposed of properly.
- Low bio-persistent Superwool product waste may have been contaminated by hazardous substances during its normal use. In such cases expert guidance should be sought.

1 As amended by European Commission Directive 97/69/EC

2 See Notas Q and R of CLP Regulation (EC) No 1272/2008

3 Low bio-persistent Superwool meets the criteria for exoneration from carcinogen classification in Nota Q of CLP Regulation (EC) No 1272/2008

4 Member companies of ECFIA manufacture and supply RCFs and other high temperature insulation wools

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