

MATERIAL SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 REACH

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1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

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| Trademark: | Arichem STB-FR |
| Product Code: | Arichem STB-FR |
| Product Description: | Sodium Trichlorobenzenesulfonate [CAS 53423-65-7] CAS name: Sodium-2,4,5-Trichlorobenzenesulfonate |
| Product Type: | Commercial Product |
| Recommended use: | May be used as a flame retardant in polycarbonate resin formulations |
| Company: | Arichem LLC 187 Sloss Industrial Road Ariton, AL 36311 USA |
| Manufacturer: | Arichem LLC 187 Sloss Industrial Road Ariton, AL 36311 USA |
| Emergency Telephone Number: | CHEMTREC (+1) 1-800-424-9300 8 am – 4:30 pm Monday-Friday: 334-762-2314 |
| Email: | BrendaHyatt@Arichem.com |

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

White crystalline powder
No characteristic odor
Spilled material may create slipping hazard
Can burn in a fire producing toxic smoke
Decomposition products are toxic.
No other significant fire, explosion or health hazard.

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| Skin Contact: | May cause minor skin irritation |
| Eye Contact: | Powder particles may be irritating to the eyes |
| Inhalation: | Powder particles may be irritating – avoid inhalation |
| Ingestion: | Effects unknown. If ingested, get trained medical help. |
| Other Information: | For skin or eye contact, flush affected areas with water continuing for 20 minutes |

3. COMPOSITION / INFORMATION ON INGREDIENTS

Not a hazardous substance or preparation according to EC-directives 67/548/EEC or 99/45/EC unless indicated.

4. FIRST AID MEASURES

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| If inhaled: | Move to fresh air in the event of inhalation of concentrated dust. Give artificial respiration if not breathing; Give oxygen if breathing is difficult. Call for trained medical help. |
| On skin contact: | Flush contacted skin areas with water for 20 minutes |
| On eye contact: | Flush eyes with water for 20 minutes |
| On ingestion: | Effects unknown. If ingested, get trained medical help. |
| Precautions: | In all cases, get trained medical help immediately. |

5. FIRE FIGHTING MEASURES

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| Autoignition Temperature: | Not established |
| Explosive Limits: | Not a significant explosion hazard. |
| Upper | Not established |
| Lower | Not established |
| Suitable Extinguishing Media: | Use dry chemical, CO ₂ , water fog, or regular foam. |
| Unsuitable Extinguishing Media: | Solid water stream not recommended. |
| Hazardous Decomposition Products: | Vapors containing SO _x and chlorides |
| Special Protective Equipment for Firefighters: | Self-contained breathing apparatus (NEN-EN137) and full protective fire fighting clothing |
| Specific Hazards: | Flash Point: 950 °F (496 °C) Vapors are toxic |

6. ACCIDENTAL RELEASE MEASURES

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| Clean up: | Collect for recycle into suitable containers for disposal. |
| Personal precautions: | See Section 8 |
| Environmental Precautions: | Do not release into waterways or the environment |

7. HANDLING AND STORAGE

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| Handling: | Handle in a well-ventilated area. If adequate ventilation is not possible, use a NIOSH/MSHA or other approved dust/mist respirator or airline supplied respirator depending on concentrations. See section 8. Eye protection. Rubber gloves. |
| Storage: | Store in closed container in cool, well ventilated location. Keep away from combustibles and other reactive materials. See Section 10. Rotate stock. Don not puncture containers. |

8. EXPOSURE CONTROL / PERSONAL PROTECTION

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| Exposure Limits: | No information unless noted below |
| Engineering Measures to Reduce Exposure | PEL for nuisance dust is 15 mg/m ³ for total dust and 5 mg/m ³ for the respirable fraction. Ventilate use area to maintain dust concentrations below the PEL. If such ventilation fails or is not available, use NIOSH/MSHA dust/mist respirator (or equivalent). Use good industrial safety practices. |
| Hand Protection: | Rubber gloves (NEN-EN 374) |
| Eye Protection: | Safety glasses with side shields (NEN-EN 165-166). |
| Respiratory Protection: | Self contained breathing apparatus in case of abnormal conditions and suitable respiratory equipment in case of insufficient ventilation (NEN-EN 149) |
| Body Protection: | Long sleeved clothing (NEN-EN 340-369-465) |
| Hygiene Measures: | When using, avoid eating, drinking, smoking. |

9. PHYSICAL AND CHEMICAL PROPERTIES

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| Physical State: | Solid |
| Appearance: | Crystalline Powder |
| Color: | White |
| Odor: | None |
| Melting Point/Range: | Not established |
| Autoignition Temperature: | Not established |
| Vapor Pressure: | Not established |
| Water Solubility: | 3.5 g/100 ml at 77 °F (25 °C) |
| Evaporation Rate: | Not established |
| Specific Gravity: | >1 (water = 1) |
| VOC content (%) | Negligible |
| Explosive Limits: | Not a significant explosion hazard. |
| Upper | Not established |
| Lower | Not established |

10. STABILITY AND REACTIVITY

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| Stability: | Stable under ambient conditions. Hazardous polymerization does not occur. |
| Conditions to avoid: | Avoid elevated temperatures (950 °F or 496 °C) Do not use without adequate ventilation. |
| Hazardous Decomposition Products: | Decomposition vapors include SO _x and chlorides |

11. TOXICOLOGICAL INFORMATION

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| LD50/oral/rat: | Not established |
| LD50/dermal/rabbit: | Not established |
| Subchronic toxicity: | No information available |
| Primary Irritation: | Skin |
| IARC: | Not listed |
| OSHA: | Not listed |
| NTP: | Not listed |
| Remarks: | Toxicological data has been taken from products of similar composition |
| Special Studies: | None |

12. ECOLOGICAL INFORMATION

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| Ecotoxicity Effects: | Do not flush into surface water or sanitary sewer system |
| Ecotoxicity – Invertebrate Data: | Ecological damages are not known or expected under normal use |
| Germany VCI (WGK): | 0 |

13. DISPOSAL CONSIDERATIONS

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| Waste from residues/ unused products: | Recycle if possible. Dispose in accordance with local regulations. |
| EWC waste disposal number: | Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with regional waste company. |

14. TRANSPORT INFORMATION

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| Transport Classification: | Not regulated as hazardous for shipment, unless noted below, under current transportation regulations. |
| ADR/RID/AND | Not regulated |
| IMDG | Not regulated |
| ICAO-TI/IATA | Not regulated |
| USA DOT | Not regulated |
| USA DOT/IMO | Not regulated |

15. REGULATORY INFORMATION

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| EU Regulations: Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances | Annex I, part 1 + 2: not mentioned. With regard to possible decomposition products, see Section 10. |
| National Regulations TSCA (USA) EINECS (Europe) | Listed* Listed |
| REACH Information | Pre-registered |
| RoHS EU Directive 2002/95/EC: | In compliance. Does not intentionally contain banned chemicals. |

* "Listed" means all chemical components are on respective inventory list and/or a qualifying exemption exists for one or more components. "Not listed" indicates that one or more components is restricted into that country or region.

16. OTHER INFORMATION

Arichem STB-FR is a trademark of Arichem LLC.

MSDS Scope: This document conforms to Regulation EC No 1907/2006 REACH
This document is applicable to other countries and regions.

Prepared by: Arichem LLC

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