

Material Safety Data Sheet

The following information includes safety data required by OSHA. The recipient of this safety data is responsible for passing the safety information on so that it reaches the end user that may come in contact with the product.

Identity:		Indicator Silica Gel		Desiccant Beads	
Supplier: Kaltron-Pettibone 1241 Ellis Street Bensenville, IL 60106 (630) 350-1116 fax (630) 350-1606		CHEMTREC 24-hour hotline: (800) 424-9300 Information: (203) 629-7900 Date prepared: 04/00 No. 370			
Ingredients/Identity Information					
Components: SiO ₂ 99%		CAS No. 7646-79-9		Hazard	
Cobalt Chloride 0.5%				Non-Hazard	
Physical/Chemical Characteristics					
Boiling Point (°C)		n.a.		Melting Point (°C)	
Vapor Pressure (mm mg) (°C)		n.a.		Specific Gravity (H ₂ O)	
Vapor Density (Air=1)		n.a.		Bulk Density (kg/m ³)	
Solubility in Water (°C/g/l)		Insoluble		PH (at G/l)	
Appearance and odor		Blue odorless granules of beads			
Fire and Explosion Hazard Data					
Flash Point (Method Used)		Non-Flammable		Flammable Limits In Air, % by Volume	
				Lower: n.a. Upper: n.a.	
Extinguishing media		n.a.			
Special Fire Fighting Procedures		n.a.			
Unusual Fire and Explosion Hazards		n.a.			
Reactivity Data					
Stability		Unstable <input type="checkbox"/> Stable <input checked="" type="checkbox"/>		Conditions to Avoid: n.a.	
Incompatibility (Materials to Avoid)		n.a.			
Hazardous Decomposition or Byproducts		n.a.			
Hazardous Polymerization		May Occur <input type="checkbox"/> Will not <input checked="" type="checkbox"/>			
Health Hazard Data					
Route(s) of Entry:		Indigestion: Believed to be no hazard		Skin: No Hazard	
		Inhalation: n.a.		Eye: No Hazard	
Signs & Symptoms of Overexposure:		Unknown			
Emergency & First Aid Procedures					
Eye		Open eyelids, rinse with plenty of water to remove dust			
Skin		Wash with plenty of water			
Inhalation		n.a.			
Ingestion		Administer plenty of water			
Notes to Physician:		n.a.			

Precautions for Safe Handling and Use	
Precautions for Handling/Storage	n.a.
Released and Spilled Material	Sweep up
Waste Disposal Method	Comply with local regulations for non-hazardous chemical disposal
Ecological Effects	n.a.
Control Measures	
Ventilation	Natural ventilation
Respiratory Protection	Use a NIOSH approved dust mask if dust is present
Gloves	Work gloves
Protective Clothing	Work clothes
Work/Hygienic Practices	No eating, drinking or smoking at worksite

Identity:	Epoxy Coated Carbon Steel/or 304 Stainless Steel	Product Body
Supplier:	Satler Sheet Metal 443 McNally Drive Nashville, TN 37211	Emergency Phone: (615) 832-7832
Product Name: Epoxy-Coated Carbon or 304 Stainless Steel		
Comments: Bulk steel is not a health hazard, but exposure to steel alloy dusts or fumes can cause both immediate (or acute) and delayed (or chronic, long term) health effects. Refer to welding rod MSDS if any welding is to be performed on breather body.		

Identity:	Polypropylene	Optional Filter Bag
Supplier:	Filter Technology Inc. 3150 West 36 th Place Chicago, IL 60632	Emergency Phone: (773) 523-7872
Product Name: Polypropylene		
Ingredients: >98% 1-propene, polymer with ethane (propylene random copolymer) <2% (not available)		
Physical and Chemical Properties		
Physical Form: Solid	Color: Varies with Formulation	Odor: Slight
Odor Threshold: n.a.	Specific Gravity: (Water=1): 0.9 estimated	Viscosity: n.a.
Vapor Pressure: Negligible	Vapor Density: (Air=1): n.a.	Evaporation Rate: n.a.
Boiling Point: n.a.	Melting point: 140-155 °C (284-311 °F)	PH: n.a.
Solubility in Water: Negligible	Flash Point: n 6+6.a., combustible solid	
Health Hazard Data/Emergency & First Aid Procedures		
This product as shipped should not present a health hazard during normal handling.		
Eye:	Material that contacts the eye should be washed out immediately with water.	
Skin:	Essentially non-irritating to the skin.	
Ingestion:	May cause choking if swallowed. Considered inert	
Fire Fighting Procedures		
Wear self-contained breathing apparatus with a full-face piece operated in the positive pressure demand mode and full body protection when fighting fires. Water may be used to keep fire-exposed containers cool until fire is out.		
Extinguishing Media:	Regular foam, water fog, carbon dioxide, or dry chemical	
Precautions for Safe Handling and Use		
Spill and Disposal Procedures	Sweep or scoop up and remove. Dispose as solid waste. Deposit in landfill in accordance with local, state, and federal regulations.	
Hazardous Decomposition Products:	May form toxic materials, i.e. carbon dioxide and carbon monoxide, various hydrocarbons, etc.	
Stability and Reactivity	Stable. Material can react with strong oxidizing agents.	
Hazardous Polymerization	Will not occur.	

Identity:	Polyester Staple	Optional Filter Bag
Supplier: KOSA Polyester Staple Business Unit PO Box 10004 Spartanburg, SC 29304 (800) 572-5425 Fax (864) 579-5135	Emergency Phone: CHEMTREC (800) 424-9300 Issue Date: October 28, 1985 Revised: February 8, 1999 L31010	
Product Name: Polyester Staple		
Product Identification		
Polyester Staple is a family of fiber products having similar hazard and physical property characteristics. These products are made from polyethylene terephthalate polymer (CAS#25038-59-9) and one or more surface finishes applied at <1% total weight of fiber.		
Hazardous Ingredients		
There are no known physical or health hazards associated with this product. In skin tests on human subjects, the fibers produced no irritation or sensitization.		
The polymer immobilizes the constituents of the polymer system (dye/clarifiers, catalyst residues, etc.) which, therefore, presents no likelihood of exposure under normal conditions of processing and handling.		
However, exposure to chemical substances may occur as a result of processing these fibers. Processing may release and aerosolize the residual moisture and surface finishes. Heating the fibers may volatilize the finishes or produce a chemical change.		
Physical-Chemical Data		
Polychylene terephthalate is chemically stable and resistant to attack by oils, solvents, weak acids and weak alkalis. The polymer melts at about 500 degrees F.		
Physical Hazards		
Polyester Staple will burn if exposed to flame. Decomposition products generated from molten polymer may be subject to autoignition. Combustion products will be comprised of carbon, hydrogen and oxygen. The exact composition will depend on the conditions of combustion.		
Health Hazard Data		
Results from toxicity studies suggest that these fibers would pose no significant health problems under normal conditions of handling and use.		
Control Measures		
Adequate ventilation is recommended to maintain finish mist levels below 3 mg/m ³ 8-hour TWA.		
Fire fighters should protect themselves from decomposition and combustion products that may include carbon monoxide and other toxic gases.		
Safe Handling Procedures		
Customary personal hygiene measures, such as washing hands after working with such fibers, are recommended. Use of safety glasses and gloves and standing to one side when cutting bale wires is advised.		
Disposal and Shipping Information		
These products are not classified as hazardous wastes under the Resource Conservation and Recovery Act and, unless prohibited by state or local regulations, can be disposed of in a municipal landfill or incinerated. Any finished oils contained in plant wastewater should be biodegradable in conventional biological wastewater treatment systems.		
These fibers are not classified by the Department of Transportation as hazardous material.		
Information contact		
ARTEVA SPECIALTIES S.a.r.l. d/b/a KoSa Environmental Safety and Health Affairs PO Box 32414 Charlotte, NC 28232-2412 (704) 554-2580 or (800) 572-5425		
To the best of our knowledge, the information contained herein is accurate. However, KoSa does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and		

should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards, which exist.

Identity:	Paratex	Hog Hair Foam/Filter Media
Supplier: Blocksom and Company Filtration Products Division 6 th and Canal Streets, PO Box 477 Michigan City, Indiana 46360-0477	Contact: (219) 878-4455 (800) 745-1408	
Manufacturers Statement		
Paratex is a blend of vegetable fiber bonded together by water based latex binder. The finished product that is manufactured at Blocksom & Co. is used in the filtration, furniture, packaging, horticulture and building industry. To the best of our knowledge, these products have no toxic characteristics when used under normal conditions. According to OSHA, Material Safety Data Sheets are used to indicate the hazards involved with chemicals in liquid, powdered or granular forms. OSHA has also agreed that an MSDS is not required for our finished material. This is covered under Federal Standards 29 CFR 1910.1200 finished article.		

Identity:	Flexible Polyurethane Foam	Foam Filter
Chemical Characteristics		
Flexible polyurethane (PU) foams are polyaddition products made of isocyanates and polyether or polyester polyols, with the aid of blowing agents (CO ₂ from the isocyanate/water reaction) and modified by catalysts, stabilizers and other additives, the raw materials react together under heat to form a host of foam products.		
The member companies of the VWI do not use any blowing agents in the production of flexible polyurethane foam, which are prohibited under German CFC-halon regulations.		
Physical Specifications		
Density: 18-300 kg/m ³	Condition at 20 deg C: Flexible, open-cell foam	
Decomposition Temperature: ≥180°C	Smell: Faint odor	
PU flexible foam does not rank among the dangerous substances listed in the German regulations on chemicals (§ 19, section 2 Chemikaliengesetz) as well as the regulation of classification, packaging, and labeling of dangerous substances (§ 8 Gefahrstoffverordnung) and therefore labeling is not mandatory. As PU flexible foam is not classified as a dangerous substance and additionally is categorized as a product in the German regulations on chemicals (§ 3 Chemikaliengesetz) no safety data sheet according to the German regulations of classification, packaging and labeling of dangerous substances (§ 14 Gefahrstoffverordnung) is needed.		
Handling		
Transport:	No special precautions are necessary for the transport of PU flexible foam. The product is not subject to the German regulations concerning the transport of hazardous materials (Gefahrgutverordnung—Strabe).	
Processing:	In the production of PU flexible foam, attention is paid to the general regulations and guidelines concerning working conditions, machinery safety and personal protection, which include: <ul style="list-style-type: none"> • The German technical working substance law (Gesetz Ober technische Arbeitsmittel) • The regulations for accident prevention of the German employer's liability insurance associations (Unfallverhütungsvorschriften der Berufsgenossenschaften) of particular industries. • BG 63 Upholstery machines (Leather industry) • VBG 71 Plaiting, cutting and sewing machines (Leather industry) • VBG 81 Processing adhesive substances (Chemical industry) 	
No further measures specific to the handling of flexible foams are required		
Fire Safety During Processing and Storage		
The following safety regulations are applicable for the processing and storage of flexible polyurethane foam:		
The general safety procedures of the fire insurers for factories and commercial premises (ASF)	VdS-No.: 2038 1/80 (01)	
Fire protection guidelines for the processing of synthetic materials.	VdS-No.: 2020 10/74	
Particular safety precautions for companies producing or producing and processing polyurethane-based flexible foam blocks.	VdS-No.: 2053 12/88	

Particular safety precautions for companies producing or producing and processing upholstery material and manufacturing upholstered furniture	Vds-No.: 20491/82
Guidelines concerning sprinkler systems, the planning and installation thereof, and fire hazard classification for PU flexible foam processing BG 3.2 (appendix A1) & PU Flexible foam storage BG 434 (appendix A2)	Vds-No.: 2092 6/87
VDS Documents are available from: Verband der Sachversicherer e.V. (VdS) Formularstelle Postfach 10 37 53 50477 Köln	
These regulations were jointly produced by the fire committee of the German Association of Non-Life Insurers (VdS) and the insurance committee of the Confederation of German Industry (Bundesverband der Deutschen Industrie). The regulations cover:	<ul style="list-style-type: none"> ● Storage of foam blocks ● Separation of factory divisions ● Electrical installations ● Extinguishing equipment ● Welding, blow-torch, cutting and other open-flame work ● Cutting machines ● Storage of combustible materials ● Smoking bans ● Electric heaters ● Cooperation with the fire brigade ● Instructions for company employees
Fire Protection	
Inflammation temperature: $\geq 400^{\circ}\text{C}$	Fire classification according to DIN 4102: B3 (for grades without flame prevention additives)
Fire Protection Measures: Keep away from ignition sources. Otherwise, follow corresponding regulations (see Processing and Storage)	
Procedure In Case of Fire	
PU flexible foam is combustible. It burns differently according to the particular foam grade. Fires can be fought with all common extinguishing materials, e.g. water (also with foam additives), CO_2 or dry powder.	
In case of fire, thick smoke is to be expected. It is therefore advisable to use gas masks and breathing equipment during fire fighting. Depending on the conditions under which the foam is burning, it will contain elements of soot, carbon monoxide, nitrogen oxides, hydrogen cyanide and organic pyrolysis products. Otherwise PU foam behaves similarly to other organic products (e.g. wool, wood, etc.). In the case of foam grades with flame prevention additives, further corrosive conflagration gases, such as hydrogen chloride, must be expected.	
A study carried out by the University of Karlsruhe, Germany, on behalf of the European raw material producers, acknowledged the safety of extinguishing water entering surface water or public drains. The test set-up was based on actual fire conditions. An analysis of the extinguishing water showed that concentrations of all potentially hazardous materials were below the legal limit. All substances to be found in the extinguishing water can be filtered and decomposed in communal sewage plants. Living organisms in the water are not endangered	
Toxicology	
According to the latest research findings, PU foam is physiologically safe.	
The basic materials used in the production of PU foam contain neither Cadmium, nitrosamines, formaldehyde, asbestos, PCB (polychlorinated biphenyl), PCP (pentachlorophenol), nor monomers such as styrene or vinyl chloride. The finished foam products are therefore also free of the aforementioned substances. Furthermore, PU foams do not contain free toluene di-isocyanate (TDI).	
Ecological Aspects and Waste Disposal	

According to particular grade PU flexible foam decomposes either very slowly or not at all. It is not listed among those waste materials which "require particular observation" under German law. Polyurethane waste has the classification number 57110 in Germany and requires no special precautions. The waste foam materials can be disposed of either in normal household waste landfills or modern incineration plants.

Identity:		Lypore	Pleated Filter Element
Supplier: Lydall, Inc. Technical Papers Division PO Box 1960 Rochester, NH 03887 (603) 332-4600/4605		Grades: 9400-D/O, 9837-D/O, 9898-D/O, 9381-D/O, 9233-D/O	Date revised: January 1993
Product Identification			
Trade Name: Lypore		CAS #: n/a	Generic Name: Laminated Glass Filter Paper
Formula: Fibrous glass, acrylic binder, synthetic binder			
Product Ingredients			
Ingredient Name:	CAS Number:	%	PEL and TLV (except as noted)
Fibrous Glass	61997-17-3	65-78	5 mg/cu. M nuisance respirable-OSHA TLV 10 mg/cu M nuisance total - ACGIH
Adhesive	n/a	6-9	Same as above
Liner	n/a	10-15	Same as above
Acrylic binder:	n/a	2-5	n/a
Physical Data			
Appearance and Odor: White paper. No odor.		Water solubility: Insoluble	
Fire and Explosion Data			
Flash Point (method): Unknown. This paper will burn		Extinguishing Media: Water, Carbon Dioxide, Foam Chemical	
Unusual Fire or Explosion Hazards: See below		Special Fire Fighting Procedures: None	
Health Hazards			
IARC has classified fiberglass as category 2B carcinogen.			
Medical conditions which may be aggravated: Pre-existing upper respiratory and lung diseases may be aggravated by dust.		Target Organs: Lungs, Skin, Eyes	
Acute Health Effects: Irritation of respiratory system, skin and eyes		Chronic Health Effects: None known	
Primary Entry Route(s): Inhalation, skin and eye contact			
Signs/Symptoms of Overexposure			
Inhalation: Overexposure to dust debris may cause irritation or soreness in throat and nose.		Skin contact: Irritation or rash Skin absorption: n/a	
Ingestion: May cause irritation of GI tract.		Eyes: Irritation or inflammation.	
First Aid/Emergency Procedures			
Inhalation: Remove to fresh air. Drink water to clear throat.		Skin Contact: Wash with soap and water.	
Ingestion: n/a		Eyes: Flush with water. Consult a physician if irritation occurs.	
Reactivity Data			
Chemical Incompatibilities: Hydrofluoric acid and strong alkalis.		Conditions to Avoid: None in designed use.	
Hazardous Decomposition Products: Depending on conditions, carbon monoxide, carbon dioxide, hydrocarbons, and oxides of nitrogen may be given off upon combustion.			
Spill or Leak Procedures			
Procedures: Vacuum dust and debris with cleaner equipped with HEPA filter. Use a dust suppressant if swept up.			
Waste Management: This product is not listed as a hazardous waste as defined by RCRA (40 CFR part 261) or SARA TITLE III. Comply with federal, state and local regulations.			

Special Protection Information	
Goggles: If mechanical handling creates excessive dusts, goggles and face shield are recommended.	
Gloves: Use gloves if rough handling procedure produces skin irritation.	
Respiration: 3M 9900 or equivalent at concentrations below TLV is recommended. Above TLV use MSA COMFO-II with H filter.	
Ventilation: Adequate ventilation to meet PEL/TLV	
Other: Wash hands after handling.	
Special Precautions:	
Storage Segregation Hazard Classes: n/a	Special Handling/Storage: Keep away from open flame.
Special Workplace Engineering Controls: Ventilation to keep dust levels below PEL/TLV.	
Other	
Prepared/Revised by: E. Minerowicz	Title: Process Control
As of the date of preparation of this document, the foregoing information is believed to comply with applicable federal and state law(s). However, no warranty or representation with respect to such information is intended or given.	

If you require additional information regarding any legal or regulatory requirement referred to in this MSDS, we suggest that you consult with an appropriate regulatory agency or with a professional with expertise in the area.

This information is taken from sources or based upon data believed to be reliable; however, Des-Case Corporation makes no warranty as to the absolute correctness or sufficiency of any of the foregoing or that additional or other measures may not be required under particular conditions.