

# DES-CASE<sup>®</sup>

## CORPORATION

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## 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 who may come in contact with the product.

<b>Identity:</b>		<b>Indicator Silica Gel</b>		Desiccant Beads
Supplier: PlusPharma, Inc. 2460 Coral Street Vista, CA 92081 760.597.0200		CHEMTREC 24-hour hotline: (800) 424-9300 Information: (203) 629-7900 Date prepared: 04/00 No. 370		
<b>Ingredients/Identity Information</b>				
Components: SiO <sub>2</sub> 99%		CAS No. 112926-00-8		Non-Hazard
Cobalt Chloride 0.5%		CAS No. 7646-79-9		Hazard
<b>Physical/Chemical Characteristics</b>				
Boiling Point (°C)		n.a.		Melting Point (°C) 1713 -6 °C
Vapor Pressure (mm mg) (°C)		n.a.		Specific Gravity (H <sub>2</sub> O) n.a.
Vapor Density (Air=1)		n.a.		Bulk Density (kg/m <sup>3</sup> ) 700-800
Solubility in Water (°C:g/l)		Insoluble		PH (at G/l) 4-8
Appearance and odor		Blue odorless granules of beads		
<b>Fire and Explosion Hazard Data</b>				
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.		
<b>Reactivity Data</b>				
Stability		Conditions to Avoid: n.a.		
Unstable <input type="checkbox"/>				
Stable <input checked="" type="checkbox"/>				
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"/>				
<b>Health Hazard Data</b>				
Route(s) of Entry:		Indigestion: Believed to be no hazard		Skin: No Hazard
		Inhalation: n.a.		Eye: No Hazard
Signs & Symptoms of Overexposure:		Unknown		
<b>Emergency &amp; First Aid Procedures</b>				
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.		

<b>Precautions for Safe Handling and Use</b>		
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.	
<b>Control Measures</b>		
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	
<b>Identity:</b>	<b>9100U Polycarbonate Resin</b>	<b>Product Body &amp; Cap</b>
Enpol Engineering Resins P.O. Box 923446 Norcross, GA 30092	Phone: (770) 441-5033 Fax: (770) 441-5037	Emergency Phone: (770) 441-5033
<b>Product Name:</b> Polycarbonate Resin		
<b>Ingredients:</b> Carbonic Acid, polymer with 4,4'-(methylethylidene) bis [phenol] Carbonic dichloride, polymer with 4,4'-(1-methylethylidene) bis [phenol] Carbonic dichloride, polymer with 4,4'-(1-methylethylidene) bis (2,6-dibromophenol) and 4,4'-(1-methylethylidene) bis [phenol] Copolymer of bisphenol A/phosgene terminated with p-tertiary butyl phenol		
<b>Physical and Chemical Properties</b>		
Physical Form: Solid	Color: Varies with Formulation	Odor: very little
Odor Threshold: n.a.	Specific Gravity: (Water=1):1.2	Viscosity: n.a.
Vapor Pressure: 0	Vapor Density: (Air=1): n.a.	Evaporation Rate: n.a.
Boiling Point: n.a.	Melting point: 329 °C (440 °F)	PH: 7
Solubility in Water: Insoluble		
<b>Health Hazard Data/Emergency &amp; First Aid Procedures</b>		
This product is not considered a hazard during normal storage & use.		
Eye:	Vapors and fumes from melt processing may cause irritation. Eye contact should be avoided as a safe practice. <b>If affected, flush with clean water.</b>	
Skin:	Polycarbonate does not require special protection for skin. Avoid prolonged periods of direct contact exposure as a safe practice. <b>Molten plastic causes severe burns. Cool rapidly with water and obtain immediate medical attention.</b>	
Inhalation:	Irritation of the respiratory tract with symptoms of coughing & choking from the processing fumes.	
First Aid:	Eye: Flush eyes with plenty of lukewarm water Skin: Wash affected areas with soap & water Inhale: Remove to fresh air. Contact a physician if any irritation persists.	
<b>Fire Fighting Procedures</b>		
Full emergency equipment with self-breathing apparatus should be worn by firefighters.		
Extinguishing Media:	WATER, WATER FOG, DRY CHEMICAL, FOAM, CO*2 (WATER IS BEST, CO <sub>2</sub> IS GENERALLY NOT RECOMMENDED - LACK OF COOLING CAPACITY).	
Unusual Fire/Explosion Hazard:	During a fire, irritating & toxic gases & aerosol may be generated by thermal decomposition & combustion.	
Autoignition Temp: 1070°F		
<b>Precautions for Safe Handling and Use</b>		
Spill and Disposal Procedures	Remove mechanically by sweeping, shoveling, or vacuuming the resin & place into container for reuse or disposal. Watch slipping hazard on the areas of spill.	
Hazardous Decomposition Products:	CO, CO*2, Bisphenol A, Methane, Diphenyl Carbonate & Phenol derivatives. Possible trace amounts of bromine compounds.	

Stability and Reactivity:	Stable.
Stability Condition To Avoid:	Sources of statics build-up & all other ignition sources should be removed.
Hazardous Polymerization:	Will not occur.

Identity:	<b>Lurool 205</b>	Coning Oil on Dacron Polyester Yarn
George A. Goulston Co., Inc. 700 N. Johnson Street Monroe, NC 28110		
Product Name: LUROL 205		
Ingredients:	<u>Chemical Name</u>	<u>Percent</u>
	Mineral Oil	Greater than 1%
	Ethoxylated Components	Greater than 1%
		<u>TLV/PEL</u>
		5 mg/m <sup>3</sup> (oil mists)
		Not established
<b>Physical Data</b>		
Boiling Point: 760 mm Hg, 101.325 kPa-More than 250 deg C	VAP Press: @20 deg C-Less than 0.01 mm/Hg	
Pour Point: Less than 0 deg C	Specific Gravity: H <sub>2</sub> O=1-More than 1	
Percent Volatiles: Nil	Solubility in Water: % by wt. @20 deg C-Emulsifiable	
Evaporation Rate: Butyl Acetate=1- Less than 1	Color and Odor: Clear light amber liquid; characteristic odor	
<b>Fire and Explosion Hazard Data</b>		
Flash Point: Greater than 150 deg C	Unusual Explosive Hazard: None	
Extinguishing Media: Water spray, Carbon Dioxide or Dry Chemical	Special Fire Fighting Procedures: use supplied breathing air and protective clothing. A solid stream of water directed into burning liquid can cause frothing.	
Flammable limits in air (% by volume): n.a.		
<b>Reactivity Data</b>		
Hazardous Combustion: Burning can produce carbon monoxide and/or carbon dioxide		
Stability: Stable	Incompatibility: None	
Conditions to Avoid: None	Hazardous Polymerization: Will not occur	
<b>Handling &amp; Disposal</b>		
Protective Equipment: Not required under normal conditions of use	Disposal Procedures: Solid waste disposal. Deposit in a landfill in accordance with local, state, and federal regulations.	
	Although no unusual combustion gases have been observed, we recommend that good ventilation be provided in areas where Dacron can be incinerated safely to elevated temperature. Waste materials of Dacron can be incinerated safely in conventional furnaces. Dacron is not readily biodegradable and contains no significant percentage of materials extractable in water so its effect on ground water in case of landfill disposal should be negligible.	

Identity:	<b>Flexible Polyurethane Foam</b>	Foam Filter
<b>Chemical Characteristics</b>		
Flexible polyurethane (PU) foams are polyaddition products made of isocyanates and polyether or polyester polyols, with the aid of blowing agents (CO <sub>2</sub> 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.		
<b>Physical Specifications</b>		
Density: 18-300 kg/m <sup>3</sup>	Condition at 20 deg C: Flexible, open-cell foam	

Decomposition Temperature: $\geq 180^{\circ}\text{C}$		Smell: Faint odor
<p>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.</p>		
<b>Handling</b>		
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:	<p>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:</p> <ul style="list-style-type: none"> <li>● The German technical working substance law (Gesetz Ober technische Arbeitsmittel)</li> <li>● The regulations for accident prevention of the German employer's liability insurance associations (Unfallverhütungsvorschriften der Berufsgenossenschaften) of particular industries.</li> <li>● BG 63 Upholstery machines (Leather industry)</li> <li>● VBG 71 Plating, cutting and sewing machines (Leather industry)</li> <li>● VBG 81 Processing adhesive substances (Chemical industry)</li> </ul>	
No further measures specific to the handling of flexible foams are required		
<b>Fire Safety During Processing and Storage</b>		
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	
<p>VDS Documents are available from:  Verband der Sachversicherer e.V. (VdS)  Formularstelle  Postfach 10 37 53  50477 Köln</p>		

<p>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:</p>	<ul style="list-style-type: none"> <li>● Storage of foam blocks</li> <li>● Separation of factory divisions</li> <li>● Electrical installations</li> <li>● Extinguishing equipment</li> <li>● Welding, blow-torch, cutting and other open-flame work</li> <li>● Cutting machines</li> <li>● Storage of combustible materials</li> <li>● Smoking bans</li> <li>● Electric heaters</li> <li>● Cooperation with the fire brigade</li> <li>● Instructions for company employees</li> </ul>
<b>Fire Protection</b>	
<p>Inflammation temperature: <math>\geq 400^{\circ}\text{C}</math></p>	<p>Fire classification according to DIN 4102: B3 (for grades without flame prevention additives)</p>
<p>Fire Protection Measures: Keep away from ignition sources. Otherwise, follow corresponding regulations (see Processing and Storage)</p>	
<b>Procedure In Case of Fire</b>	
<p>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<sub>2</sub> or dry powder.</p>	
<p>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.</p>	
<p>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.</p>	
<b>Toxicology</b>	
<p>According to the latest research findings, PU foam is physiologically safe.</p>	
<p>The basic materials used in the production of PU foam contain neither Cadmium, nitrosamines, formaldehyde, asbestos, PCB (polychlorinated biphenylene), PCP (pentachlorophenl), 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 toluylene di-isocyanate (TDI).</p>	
<b>Ecological Aspects and Waste Disposal</b>	
<p>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.</p>	

<p>Identity: Polymer Molding, Inc. 1655 West 20<sup>th</sup> Street Erie, PA 16502</p>	<p><b>Ienite Polyethylene 808A</b>      Standpipe Cap</p> <p>Emergency Phone No.: (814) 455-8085</p>
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Product Name: "Ienite" Polyethylene 808A		
Ingredients: Polyethylene homopolymer		
<b>Physical Data</b>		
Physical Form: Solid	Color: Varies with Formulation	Odor: Odorless
Odor Threshold: n.a.	Specific Gravity (water=1): <1	Vapor Pressure: Negligible
Vapor Density: (Air=1): n.a.	Evaporation Rate: n.a.	Boiling Point: n/a
Solubility in Water: negligible	Lower Explosive Limit: n.a.	pH: n.a.
Softening Point: Varies with Formulation	Viscosity at Ambient Temperature: n.a.	
Octanol/Water Partition Coefficient: n.a.	Flash Point: n.a., combustible solid	
<b>Fire and Explosion Hazard Data</b>		
Extinguishing Media: Water spray, dry chemical	Special Fire Fighting Procedures: Wear self-contained breathing apparatus and protective clothing	
Hazardous Combustion Products: Carbon dioxide, carbon monoxide	Unusual Fire and Explosion Hazards: Powdered material may form explosive dust-air mixtures.	
<b>Reactivity Data</b>		
Stability: Stable	Incompatibility: Material can react with strong oxidizing agents.	Hazardous Polymerization: Will not occur
<b>Health Hazards</b>		
Inhalation	If symptomatic, move to fresh air. Get medical attention if symptoms persist.	
Eyes	Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if symptoms persist.	
Skin	If burned with molten material, cool as quickly as possible. Do not peel material from skin.	
Ingestion	Material is not expected to be absorbed from the gastrointestinal tract so that induction of vomiting should not be necessary.	
Carcinogenicity	n.a.	
<b>Handling and Disposal</b>		
Accidental Release Measures:	Sweep or scoop up and remove	
Waste Disposal Method:	Solid waste disposal	
Handling and Storage:	Disposal of product may be subject to federal, state or local laws. Incinerate.	

Identity:		<b>Petroleum Grease</b>		O-Ring Seal	
Parker Hannifin Corp., O-Ring Division 1360 Palumbo Drive, PO Box 11751 Lexington, KY 40512 Trade Name: O-Lube			Emergency Telephone No.: (606) 269-2351 Fax No.: 606-268-3816 Issue Date: 8/13/1998		
Trade Name: Parker O-Lube					
<b>Ingredients and Recommended Occupational Exposure Limits</b>					
Component	% WT.	CAS No.	NFPA (HMIS) Code:		
Barium Soap - Insoluble	25-30%	#68201-19-4	Health-1	Flammability-0	Reactivity-0
Petroleum Naphthenic Oil	70-75%	#68201-19-4	Health-1	Flammability-0	Reactivity-0
<b>Physical Data</b>					
Boiling Point (Deg. F): 700			Specific Gravity: Less than 1.0 (.9007 to .9129)		
Grease Number #2 NLGI			ASTM Drop Point: 400°F min.		
Pour Point (open cup): 435°F min.			Ash Sulfate 14.25% max.		
Fire Point: 485°F min.			Water Content 0.2% max.		
ASTM D217 Penetration @ 77°F: 265-295			Appearance and Odor Semi-Solid, Amber Color, No Odor		
Note: Classed as a combustible liquid, Class III B					
<b>Special Protection Information</b>					

