Safety Data Sheet

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Airwolf 3D Polycarbonate 3D Printer Filament

SECTION 1, IDENTIFICATION

Product Part Number:	F08101, F08102, F08116, F23801, F23802, F23816
Manufacturer:	Wolf & Associates, Inc. DBA Airwolf 3D
Address:	11208 Young River Avenue, Fountain Valley, CA 92708
Phone Number:	+1 949-478-2933
Recommended Use:	3D printing
Restrictions on Use:	Intended for use with 3D printers.

SECTION 2, COMPOSITION/INFORMATION ON INGREDIENTS

The non-hazardous components and exact percentage (concentration) of the composition have been withheld as a trade secret.

This product consists primarily of high molecular weight polymers which are not expected to be hazardous. The ingredients in this product are present within the polymer matrix and are not expected to be hazardous.

SECTION 3, HAZARD IDENTIFICATION

No hazardous ingredients known to company.

SECTION 4, HAZARD IDENTIFICATION

EMERGENCY OVERVIEW:

• Slight or no odor

• Can burn in a fire creating dense, toxic smoke

• Molten plastic can cause severe thermal burns

• Fumes produced during melt processing may cause eye, skin, and respiratory tract irritation. Severe over-exposure may result in nausea, headache, chills, and fever. See below for additional effects.

• Post-processing, such as grinding, sanding, or sawing can produce dust which may present an explosion or respiratory hazard.

Most Important Hazards:	None
Adverse Human Health Effects:	None
Environmental Effects:	None
Other Information:	OSHA, IARC and/or NTP have listed carbon, titanium dioxide, crystalline silica (quartz), respirable glass and certain heavy metals, present in some colorants and fillers, as carcinogens. If these materials are present in this product at significant quantities, they are shown in Section 2/3. These materials are essentially bound to the plastic matrix and are unlikely to contribute to workplace exposure under recommended processing conditions.
Processing Issues:	Processing vapors may cause irritation to the eyes, skin, and respiratory tract. In cases of severe exposure, nausea and headache can also occur. Grease-like processing vapor condensates on ventilation ductwork, molds, and other surfaces can cause irritation and injury to skin.
Aggravated Medical Conditions:	MEDICAL RESTRICTIONS: There are no known health effects aggravated by exposure to this product. However, certain sensitive individuals and individuals with respiratory impairments may be affected by exposure to components in the processing vapors.

SECTION 5, FIRST-AID MEASURES

Ingestion:	Not probable due to nature of the product. If a large amount of material is swallowed, consult a physician for medical treatment.
Inhalation:	Move to fresh air in case of accidental inhalation of fumes from overheating or combustion. If symptoms persist, call a physician.
Skin:	Immediately cool the skin by rinsing with cold water after contact with hot material. Wash off immediately with soap and plenty of water. Consult a physician.
Eyes:	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If eye irritation persists, consult a specialist.
Precautions:	Processing vapors inhalation may be irritating to the respiratory tract. If symptoms are experienced, remove victim from the source of contamination or move victim to fresh air and obtain medical advice

SECTION 6, FIRE-FIGHTING MEASURES

Autoignition Temperature:	630°C (1166°F), estimated
Explosive Properties:	Avoid generating and accumulating dusts; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Suitable Extinguishing Media:	Use dry chemical, CO2, water spray or "alcohol" foam. Water is the best extinguishing medium. Carbon dioxide and dry chemical are not generally recommended because their lack of cooling capacity may permit re-ignition on larger resin fires (blobs, drools, etc.).
Unsuitable Extinguishing Media:	Do not use a solid water stream as it may scatter and spread fire.
Hazards from Combustion Products:	Fire will produce dense black smoke containing hazardous combustion products, carbon oxides, hydrocarbon fragments.
Special Fire-Fighting Procedure:	Do not enter fire area without proper protection including self- contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products.
Specific Hazards:	Take precautionary measures against static discharges. During processing, dust may form explosive mixture in air. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 7, ACCIDENTAL RELEASE MEASURES

Methods for Cleaning Up:	Sweep up and shovel into suitable containers for disposal. Do not create a powder cloud by using a brush or compressed air.
Personal Precautions:	See section 9.
Environmental Precautions:	Do not flush into surface water or sanitary sewer system. Material should not be released into the environment.

SECTION 8, HANDLING AND STORAGE

Handling:	Handle in accordance with good industrial hygiene and safety practices. Provide for appropriate exhaust ventilation and dust collection at machinery. Avoid dust formation. All metal parts of the mixing and processing equipment must be earthed.
Storage:	Store in closed container in a dry and cool area. Keep away from heat sources and sources of ignition.
Incompatible Products:	Strong acids, strong oxidizing agents.

SECTION 9, EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits:	No components with information, unless noted below
Engineering Measures to Reduce Exposure:	Handle in accordance with good industrial hygiene and safety practice. Provide for appropriate exhaust ventilation at machinery. Processing fume condensate may be a fire hazard and toxic; remove periodically from exhaust hoods, ductwork, and other surfaces using appropriate personal protection.
Personal Protection Eye:	Wear safety glasses or chemical goggles for general purpose.
Respiratory:	Wear masks as needed
Gloves:	Necessary for handling melted material.

SECTION 10, PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	String/strand
Color:	Varies
Odor:	None or slight
Autoignition Temperature:	630°C (1166°F) estimated
Melting Temperature:	This product does not exhibit a sharp melting point but softens gradually over a wide range of temperatures.
Solubility:	Insoluble in water
Specific Gravity:	>1; (water = 1)
VOC content (%):	Negligible

SECTION 11, STABILITY AND REACTIVITY

Stability:	Stable under ambient conditions. Hazardous polymerization does not occur.
Conditions to Avoid:	Avoid temperatures above 630°C. To avoid thermal decomposition, avoid elevated temperatures. Heating can result in the formation of gaseous decomposition products, some of which may be hazardous. Do not exceed melt temperature recommendations in product literature. Purgings of hot material should be collected in small, flat, thin shapes and quenched with water to allow for rapid cooling. Do not allow product to remain in hot end at elevated temperatures for extended periods of time.
Hazardous Decomposition Products:	Process vapors under recommended processing conditions may include trace levels of hydrocarbons, phenols, alkylphenols, diarylcarbonates.
Incompatible Products:	Strong acids, strong oxidizing agents

SECTION 12, TOXICOLOGICAL INFORMATION

Acute Toxicity

LD50/oral/rat:	>5000 mg/kg (estimated)
LD50/dermal/rabbit:	>2000 mg/kg estimated
Inhalation:	Inhalation unlikely due to physical form.
Eye Contact:	Resin particles, like other inert materials, are mechanically irritating to eyes.
Skin Contact:	Not a hazard during normal industrial use.
Ingestion:	Unlikely due to physical form.
Chronic Toxicity:	No information available.
Subchronic Toxicity:	No information available.
Primary Irritation	Substance does not generally irritate and is only mildly irritating to the skin.
IARC:	Not listed
OSHA:	Not regulated
NTP:	Not tested
Remarks:	The toxicological data has been taken from products of similar composition.

SECTION 13, ECOLOGICAL INFORMATION

Do not flush into surface water or sanitary sewer system. Ecological damages are not known or expected under normal use.

SECTION 14, DISPOSAL CONSIDERATIONS

Recycling is encouraged. Landfill or incinerate in accordance with federal, state and local requirements. Collected processing fume condensates and incinerator ash should be tested to determine waste classification.

SECTION 15, TRANSPORT INFORMATION

Not classified as a dangerous good under transport regulations.

SECTION 16, REGULATORY INFORMATION

International Inventories

TSCA (USA):	Listed
DSL (Canada): EINECS/ELINCS (Europe): ENCS (Japan):	Listed
IECSC (China):	Listed
KECL (Korea):	Listed
PICCS (Philippines):	Listed
AICS (Australia):	Listed
NZIoC (New Zealand):	Listed

Other Inventory Information:
A "Listed" entry above means all chemical components are on the respective inventory list and/or a qualifying exemption exists for one or more components. A "Not listed" entry above indicates one or more components is restricted from import or manufacture into that country/region. Articles are exempt from registration and are therefore not listed on the national chemical inventories.

SARA (313) Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA)
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and and Title 40 of the Code of Federal Regulations, Part 372.

SARA (311, 312) Hazard Class:

Acute Health Hazard:	N
Chronic Health Hazard:	N
Fire Hazard:	N
Sudden Release of Pressure Hazard:	N
Reactive Hazard?	N

Canada:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR. Unless noted below, this product is non-controlled. Some classifications may not apply to the entire product.

California Proposition 65:
This product does not contain components known to the State of California to cause cancer and/or reproductive effects.

RoHS EU Directive 2002/95/EC:

This product complies with RoHS - it does not intentionally contain banned chemicals.

HMIS Rating

Health: 0

Flammability: 1

Reactivity: 0

SECTION 17, OTHER INFORMATION

Product Name:	Airwolf 3D Polycarbonate 3D Printer Filament
Disclaimer:	SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE, except that the product shall conform to contracted specifications. No claim of any kind shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.
