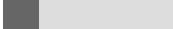
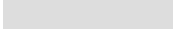

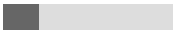



Material Safety Data Sheet

1. Product & Company Identification

Product:	ABS Pro filament, Ø2.85 mm, natural, 1 kg
Manufacturer:	Conrad Electronic SE
Address:	Klaus-Conrad-Str. 1, D-92240 Hirschau
Telephone:	+49 (0) 9604 / 40 - 8988
Date of issue:	16.05.2017

2. Hazards Identification

	Min	Max	
Flammability	1		0 = Minimum
Toxicity	0		1 = Low
Body Contact	2		2 = Moderate
Reactivity	1		3 = High
Chronic	2		4 = Extreme

GHS classification:

Not Applicable

Label elements:

Not Applicable

SIGNAL WORD:

Not Applicable

3. Composition/Information on Ingredients

Ingredient Name	CAS No.	EC No.	Content (%)
Styrene/butadiene/acrylonitrile copolymer	9003-56-9	618-371-8	>69.9%
PETG	25038-91-9	607-509-2	30%
Other additives	--	--	<0.1%

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4. First Aid Measures

INGESTION

- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

EYE

If this product comes in contact with the eyes:

- Wash out immediately with fresh running water.
- If irritation continues, seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin or hair contact occurs:

- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

INHALED

- If dust is inhaled, remove from contaminated area.
- Encourage patient to blow nose to ensure clear passage of breathing.
- If irritation or discomfort persists seek medical attention.

NOTES TO PHYSICIAN

- Treat symptomatically.

5. Fire Fighting Measures

EXTINGUISHING MEDIA

- Do NOT direct a solid stream of water or foam into burning molten material; this may cause spattering and spread the fire.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves in the event of a fire.
- Prevent, by any means available, spillage from entering drains or water courses.
- Use water delivered as a fine spray to control fire and cool adjacent area.

FIRE/EXPLOSION HAZARD

- Combustible solid which burns but propagates flame with difficulty

FIRE INCOMPATIBILITY

- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

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6. Accidental Release Measures

MINOR SPILLS

- Generally not applicable.

MAJOR SPILLS

- Generally not applicable.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

7. Handling and Storage

PRECAUTIONS FOR SAFE HANDLING

- The greatest potential for injury caused by molten materials occurs during purging of machinery (moulders, extruders etc.)
- It is essential that workers in the immediate area of the machinery wear eye and skin protection (such as full face, safety glasses, heat resistant gloves, overalls and safety boots) as protection from thermal burns.
- Fumes or vapours emitted from hot melted materials, during converting operations, may condense on overhead metal surfaces or exhaust ducts. The condensate may contain substances which are irritating or toxic. Avoid contact of that material with the skin.
- Use in a well-ventilated area.
- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.

SUITABLE CONTAINER

- Multi-ply paper bag with sealed plastic liner or heavy gauge plastic bag.
- NOTE: Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse. Check that all containers are clearly labelled and free from leaks. Packing as recommended by manufacturer.

STORAGE INCOMPATIBILITY

- Avoid reaction with oxidising agents

PACKAGE MATERIAL INCOMPATIBILITIES

Not Available

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8. Exposure Controls, Personal Protection

APPROPRIATE ENGINEERING CONTROLS

For molten materials:

Provide mechanical ventilation; in general such ventilation should be provided at compounding/ converting areas and at fabricating/ filling work stations where the material is heated. Local exhaust ventilation should be used over and in the vicinity.

Keep dry!!

Processing temperatures may be well above boiling point of water, so wet or damp material may cause a serious steam explosion if used in unvented equipment.

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard.

PERSONAL PROTECTION



EYE AND FACE PROTECTION

- Safety glasses with side shields
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.

SKIN PROTECTION

See Hand protection below

HANDS/FEET PROTECTION

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Suitability and durability of glove type is dependent on usage.

BODY PROTECTION

See Other protection below

OTHER PROTECTION

- When handling hot or molten liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.
- Usually handled as molten liquid which requires worker thermal protection and increases hazard of vapour exposure.
- CAUTION: Vapours may be irritating.
- Overalls.

Material Safety Data Sheet

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Color:	Natural
Form:	Wire line
Odor:	Odorlessness
Melting Range (°C):	220
Boiling Range (°C):	260
Flash Point (°C):	No data.
Decomposition Temp (°C):	270
Autoignition Temp (°C):	No data.
Upper Explosive Limit (%):	No data.
Lower Explosive Limit (%):	No data.
Volatile Component (%vol):	No data.
Molecular Weight:	No data.
Viscosity:	No data.
Solubility in water (g/L):	No data.
pH (1% solution):	No data.
pH (as supplied):	No data.
Vapour Pressure (kPa):	No data.
Specific Gravity (water=1):	No data.
Relative Vapour Density (air=1):	No data.
Evaporation Rate:	No data.

10. Stability and Reactivity

REACTIVITY

See section 7

CHEMICAL STABILITY

- Unstable in the presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

Material Safety Data Sheet

11. Toxicological Information

Information on toxicological affects

Acute Toxicity

LD/LC50 values relevant for classification

No data.

Primary irritant effect

On the skin

No data.

On the eyes

No data.

Inhaled

No data.

Sensitization

No data.

12. Ecological Information

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
Styrene/butadiene/acrylonitrile copolymer	LOW	LOW	LOW	LOW
PETG	No Data Available	No Data Available	No Data Available	No Data Available
Other additives	No Data Available	No Data Available	No Data Available	No Data Available

13. Disposal Considerations

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.

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14. Transport Information

Labels Required

Marine Pollutant: NO

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: ADR, IATA, IMDG, ADN

15. Regulatory Information

REGULATIONS

The product needs to follow local regulations.

16. Other Information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.