

## HEALTH & SAFETY DATA SHEET

**1. PRODUCT NAMES.**

**This data sheet includes ALL of the following products:**

Kite Brand TUFNOL	TUFNOL Grade 1P/21
Heron Brand TUFNOL	TUFNOL Grade 1P/13
Swan Brand TUFNOL	TUFNOL Grade RL P/1
TUFNOL Grade RL P/2	TUFNOL Grade RLP/3

**2. GENERAL DESCRIPTION.**

Non-metallic thermosetting plastics materials reinforced with paper. Solid sheets, rods, tubes, bars or other profiles. Components made from these.

**3. INTENDED USES.**

Used for non-metallic engineering components for a wide range of purposes, including electrical insulation, mechanical applications and others.

**4. CHEMICAL COMPOSITION.**

Cured phenolic resin + paper.

**5. REACTIVITY DATA.**

Not highly reactive at normal temperatures.

**6. PHYSICAL PROPERTIES.**

6.1 PHYSICAL STATE.	Solid
6.2 THERMAL CHARACTERISTICS.	Will burn. See Section 9. below.
6.3 SOLUBILITY.	Insoluble in water.
6.4 DENSITY.	1.2 to 1.4 gm/cm <sup>3</sup>
6.5 OTHERS.	COLOUR: Brown or Black

**7. HAZARDOUS CONSTITUENTS.**

**SOLID MATERIAL:** Solid materials are not hazardous, under normal conditions.

**DUST:** Machining causes dust. Inhalation of small quantities of dust need not be a cause for concern. Occupational exposure limits apply to the inhalation of all types of dust. Take suitable measures to control exposure to airborne dust, such as the use of appropriate local exhaust ventilation, wearing of face masks, etc.

**8. OCCUPATIONAL EXPOSURE LIMITS.**

**SOLID MATERIAL:** No exposure limits are applicable to solid materials.

**DUST:** In the United Kingdom, no special exposure limit is assigned to this particular type of dust. Personal exposure to dust should be kept below both 10 mg/cu.m 8 hour TWA total inhalable dust and 5 mg/cu.m 8 hour TWA respirable dust. (Refer to HSE Guidance Note EH 40.) Different limits may apply elsewhere.

**9. FIRE & EXPLOSIVE HAZARDS.**

Solid materials are chemically stable under normal conditions and difficult to ignite. In a fire they will burn, contributing to the fire and evolving hazardous fumes and smoke. Constituents of smoke vary with local conditions, but may include carbon dioxide, carbon monoxide, ammonia, phenol, formaldehyde, and water vapour, plus a number of more complex substances resulting from partial combustion. Avoid inhalation of fumes. Follow normal fire fighting procedures, including the wearing of breathing apparatus.

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**9. FIRE & EXPLOSIVE HAZARDS continued.**

Dust from machining is more combustible than the solid and may become ignited from a small heat source. Use correct machining techniques which do not give rise to excessive heat, or burn the material. Incorrect machining techniques usually cause a marked change in the colour of the cut surface, accompanied by a strong burning odour. If these, or any other signs of burning occur during machining, stop work immediately. Check to ensure that dust has not ignited and re-assess machining techniques before proceeding.

In dust extraction systems, finely divided organic dust is a potential source of combustion or explosion. Care must be taken in the design and servicing of ducted extraction systems to ensure that explosive limits are not exceeded. Explosion relief devices should be provided. In all cases, expert advice should be obtained.

**10. HANDLING AND USE PRECAUTIONS.**

Sheets may be smooth and slippery. Avoid accidental slippage of stacked material. Take care to avoid injury caused by sharp edges. Inhalation of dust is to be avoided (see above).

Dust may cause irritation to the skin and mouth of persons particularly sensitive. Such persons should avoid skin contact.

**11. STORAGE & TRANSPORT PRECAUTIONS.**

Sheets may be smooth and slippery. Avoid accidental slippage of stacked material. Take care to avoid injury caused by sharp edges.

**12. EMERGENCY ACTION.**

12.1	FIRE.	Extinguish with water. Use wetting agent if available. Foam or CO <sub>2</sub> may also be used.
12.2	SPILLAGE.	Not applicable.
12.3	INHALATION.	For significant inhalation of dust or smoke, consult a doctor.
12.4	INGESTION.	For significant ingestion of dust or eye irritation, consult a doctor. Do not induce vomiting.
12.5	SKIN CONTACT.	Wash thoroughly with water to remove dust.
12.6	FIRST AID.	N/A

**13. ECOLOGICAL INFORMATION.**

Do not dispose of dusts or waste in the water system or open air.

**14. WASTE DISPOSAL.**

All waste products should be disposed of by normal waste disposal methods, including controlled incineration or burial at approved sites, in accordance with local regulations.

**15. RELEVANT REGULATIONS.**

In the United Kingdom, see occupational exposure limits for dust in HSE Guidance Note EH 40. Other regulations may apply elsewhere.

**16. OTHER INFORMATION and REFERENCES.**

No specific Health & Safety risks apply to this material in normal use as engineering components in suitable applications. For further information contact TUFNOL Ltd.

**DISCLAIMER.**

While the information on this data sheet is believed to be correct, it is the responsibility of the user to ensure the correct use and application of this product.