tyco Electronics

SAFETY DATA SHEET

Based on Directive 91/155/EEC of the Commission of the European Communities

WIRE AND CABLE PRODUCTS

*1. Identification of the substance/preparation and the company

1.1 Identification of the substance/preparation: Wire and Cable Products

Synonyms :
Primary Wire Types/Specifications: 35, 44, 54, 55, 62, 63, 64, 65, 67, 77, 81, 82, 95, 99, 100, ADW, ACW

Cable Jacket Types: AFR, FDR25, Flexline, Fluoroelastomer (e.g. Viton), Polychloroprene (e.g. Neoprene), Rayolin, Raythane, Thermoflex, Thermorad, Zerohal

Cable Constructions: APC, AFPC, Cheminax, Databus, Duralite, EPD (special purpose electrical multicore cable), Electroloss Filterline, Filmbonded Cable, Filterline, Flat Conductor Cable, Flexlite, Power Cable

CAS no.	:	N.A.	**Reference**	:	RAY/3525E Revision 3
EC index no.	:	N.A.	**NFPA code**	:	N.D.
EINECS no.	:	N.A.	**Molecular weight**	:	N.A.
RTECS no.	:	N.A.	**Formula**	:	N.A.

1.2 **Company/undertaking identification:**
Tyco Electronics UK
Wire and Harnessing Products
Faraday Road
Swindon SN3 5HH
United Kingdom
Tel. : (+44) 1793-572537

1.3 **Telephone number for emergency:**
(+32) 14-58 45 45
Information centre of dangerous goods (B.I.G.) - Belgium

2. Composition/information on ingredients

Plastic insulation: based on polyolefins, olefin copolymers, polyesters, fluoropolymers, polyurethanes or polychloroprene elastomers

Conductor: tin, nickel, or silver plated copper, copper alloy, aluminium or aluminium alloy

3. Hazards identification

This Safety Data Sheet applies to a group of products which are not hazardous as supplied
Products may emit hazardous thermal decomposition products if overheated or burnt (see section 10.2)

4. First aid measures

4.1 **Eye contact:**
- Rinse immediately with plenty of water
- Consult a doctor/medical service if irritation persists

4.2 **Skin contact:**
- Not applicable

4.3 **After inhalation:**
- If exposed to fumes from overheated or burnt material:
  remove the victim into fresh air
  keep warm and at rest
- Consult a doctor/medical service if breathing problems develop

4.4 **After ingestion:**
- Not applicable

5. Fire-fighting measures

5.1 **Suitable extinguishing media:**
- Use media appropriate for surrounding fire:
  Water spray, Polyvalent foam, Dry chemical powder, Carbon dioxide

5.2 **Unsuitable extinguishing media:**
- No data available

5.3 **Special exposure hazards:**
- Toxic and corrosive fumes may be released in a fire (see section 10.2)

5.4 **Instructions:**
- Take care when handling fire damaged fluoropolymer materials
- Wear Neoprene gloves to avoid skin contact with potentially highly corrosive residues which may contain hydrofluoric acid
- Equipment in contact with degraded material should be washed with calcium hydroxide solution
- Gloves, wipes and residues should be neutralised with calcium hydroxide solution before disposal

5.5 **Special protective equipment for firefighters:**
- Self-contained breathing apparatus with full face piece
- Protective clothing for exposure to chemicals

6. Accidental release measures

6.1 **Personal protection:**
- Wear personal protective equipment (see section 8.3)

6.2 **Environmental precautions:**
- Not applicable

6.3 **Clean-up:**
- Pick up for continued use or disposal

7. Handling and storage

7.1 **Handling:**
- Refer to Tyco Electronics product installation instructions
- Avoid inhaling fumes which may be released if products are heated to decomposition temperatures, e.g. during soldering or hot wire stripping
- Avoid contact with residues from fire damaged products (see section 5.4)
- Wash hands before eating, drinking or smoking

7.2 **Storage:**
- Store in original packaging in a cool and dry area

Storage temperature: ambient temperature

7.3 **Materials for packaging:**
- Material to avoid: no data available

*8. Exposure controls/Personal protection

8.1 Recommended engineering controls:
- Use local exhaust ventilation of the workplace if products are heated, e.g. during soldering or hot wire stripping

Sampling methods:
- Not applicable

8.2 Exposure limits:

TLV-TWA	:	not listed
TLV-STEL	:	not listed
OES-LTEL	:	not listed
OES-STEL	:	not listed
MAK	:	not listed
MAC-TGG 8h	:	not listed
MAC-TGG 15 min.	:	not listed
VME-8h	:	not listed
VLE-15 min.	:	not listed
GWBB-8h	:	not listed
GWK-15 min.	:	not listed

8.3 Personal protection:

eye protection:
- Not required for normal conditions of use

hand protection:
- Neoprene gloves if handling thermally degraded or fire-damaged products (see section 5.4)

skin protection:
- Not required for normal conditions of use

respiratory protection:
- Not required for normal conditions of use

9. Physical and chemical properties

9.1 Appearance (at 20°C)	:	Plastic coated wire and cable in various sizes and constuctions	
9.2 Odour	:	None	
9.3 Colour	:	Various	
9.4 pH value	:	N.A.	
9.5 Boiling point/boiling range	:	N.A.	°C
9.6 Melting point/melting range	:	N.A.	°C
9.7 Flashpoint	:	N.A.	°C
9.8 Auto-ignition point	:	N.D.	°C
9.9 Explosion limits	:	N.A.	vol%
9.10 Vapour pressure (at 20°C)	:	N.A.	hPa
9.11 Relative density (at 20°C)	:	N.A.	
9.12 Water solubility (at 20°C)	:	Insoluble	
9.13 Soluble in	:	N.D.	
9.14 Relative vapour density	:	N.A.	
9.15 Saturation concentration	:	N.A.	g/m^3
9.16 Viscosity	:	N.A.	Pa.s

10. Stability and reactivity

10.1 Stability:
- Stable under normal conditions

10.2 Reactivity/Hazardous decomposition products:
- Hot wire stripping and other processes which cause thermal degradation of the plastic insulation, may generate hazardous decomposition products which should be considered toxic and should not be inhaled

- Thermal decomposition products will depend on the base polymer(s) used and may include, but are not be limited to : alcohols, aldehydes, aromatic amines, aromatic isocyanates, carbon monoxide, carbon dioxide, halogenated hydrocarbons, hydrocarbons, hydrogen bromide, hydrogen chloride, hydrogen cyanide, hydrogen fluoride, organic acids and oxides of nitrogen, phosphorus and sulphur

10.3 Conditions/materials to avoid:
- Not applicable

11. Toxicological information

11.1 Acute toxicity:

LD50 oral rat	:	N.D.	**mg/kg**
LD50 dermal rat	:	N.D.	**mg/kg**
LD50 dermal rabbit	:	N.D.	**mg/kg**
LC50 inhalation rat	:	N.D.	**mg/l/4 h**

11.2 Chronic toxicity:

EC carc. cat.: not listed
EC muta. cat.: not listed
EC repr. cat.: not listed

Carcinogenicity (TLV) : not listed
Carcinogenicity (MAK) : not listed

IARC classification : not listed

11.3 Routes of exposure: Skin contact with/ and inhalation of thermal decomposition products

11.4 Acute effects/symptoms:

EYES:
- Not a normal route of exposure

- Overheating or burning plastic materials may produce corrosive vapours/fumes that can cause severe irritation and lachrymation

SKIN:
- These products would not be expected to cause irritation, or present a hazard to health through skin absorption

- Thermal decomposition products may cause severe irritation and chemical burns which may not be immediately visible

INHALATION:
- Not a normal route of exposure

- Thermal decomposition products may cause severe irritation of the respiratory tract, coughing, headache, dizziness and nausea
- Inhaling thermal decomposition products of fluoropolymers may produce symptoms similar to influenza

INGESTION:
- Not a normal route of exposure

11.5 Chronic effects:
- None known

12. Ecological information

12.1 Mobility:
- **Volatile organic compounds (VOC): N.A.**
- Insoluble in water

12.2 Biodegradation:

- **soil:** **T ½** : N.D. **days**
  BOD_5 : N.D. **g O_2/g substance**
  COD : N.D. **g O_2/g substance**

- **water:** - Not readily biodegradable

12.3 Bioaccumulation: - **log P_{ow}** : N.D.
- **BCF** : N.D.

12.4 Aquatic toxicity:

- No data available

12.5 Other information:

- **WGK:** N.D.
- **Effect on the ozone layer** : None
- **Waste water purification** : N.D.

13. Waste disposal considerations

13.1 Provisions relating to waste:
- Waste code (EC): N.A.

13.2 Disposal methods:
- Landfill or incinerate at an approved site in accordance with national and local regulations
- For incineration use a high temperature incinerator equipped with secondary combustion chamber and acid gas scrubber
- Metal conductor(s) in wire and cable waste may be reclaimed by a licensed, specialist waste recovery contractor

14. Transport information

14.1 Proper shipping name: N.A.

14.2 Transport by road/rail (ADR/RID): N.A.
Danger code: -
Danger labels on tanks: -
on packages: -

14.3 Substance identification number (UN number): N.A.
Packing: -

14.4 Maritime transport (IMDG code): N.A.
EMS : -
MFAG : -
Marine pollutant : -

14.5 Inland navigation (ADNR): N.A.

14.6 Air freight (ICAO): N.A.
Instruction "passenger": -
Instruction "cargo": -

14.7 Other information: Not restricted for any mode of international transport

15. Regulatory information

Labelling in accordance with EC directives 67/548/EEC and 1999/45/EEC

NOT APPLICABLE

*16. Other information

Users are advised that they may have additional disclosure obligations under other national and local laws. Users are advised to ensure that this information is brought to the attention of all employees, agents, and contractors handling this product. Users of Tyco Electronics products should make their own evaluation to determine the suitability of each such product for the specific application and to establish safe handling and installation procedures. Distributors of this product are advised to forward this document, or the information contained herein, to every purchaser of this product.

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N.A. = NOT APPLICABLE
N.D. = NOT DETERMINED
* = INTERNAL CLASSIFICATION

Exposure limits:
TLV : Threshold Limit Value - ACGIH USA 2000
OES : Occupational Exposure Standards - United Kingdom 1999
MEL : Maximum Exposure Limits - United Kingdom 1999
MAK : Maximale Arbeitsplatzkonzentrationen - Germany 2000
TRK : Technische Richtkonzentrationen - Germany 2000
MAC : Maximale aanvaarde concentratie - The Netherlands 2000
VME : Valeurs limites de Moyenne d'Exposition - France 1999
VLE : Valeurs limites d'Exposition à court terme - France 1999
GWBB : Grenswaarde beroepsmatige blootstelling - Belgium 1998
GWK : Grenswaarde kortstondige blootstelling - Belgium 1998

MSDS established : 18-03-1997
Reference number : BIG\25488GB
Reference : RAY/3525E Revision 3
Date of revision : 10-01-2001
Reason for revision : See sections marked (*)