INDASOL MS 660

Pressure Pipe Adhesive conforming to BS 4346 Part 3 1982 and to DIN 16970

Indasol MS 660 is a solvent cement for PVC pressure pipe jointing. A clear thixotropic water-resistant gel, it is specifically designed for use with uPVC pressure pipes.

Indasol MS 660 rapidly develops high bond strength and is the ideal universal cement for mains water pressure, plumbing, drainage and building systems.

The product is approved for jointing uPVC products conforming to:

- **BS 4345 Part 1**
  Injection moulded uPVC fittings for solvent welding for use with pressure pipes, including potable water supply.
- **BS 5481**
  uPVC pipe and fittings for gravity sewers.
- **BS 5414**
  uPVC soil and ventilating pipe, fixtures and fittings.
- **BS 4576**
  uPVC rainwater goods.
- **BS 4660**
  uPVC undergound drain pipe and fittings.

Note: Under no circumstances should the product be mixed with cleaning fluids, nor should the pipe be dipped into the adhesive.

TECHNICAL DATA:
Type: Solvent Cement
Colour: Clear
Specific Gravity: 0.985±0.015
Viscosity: Thixotropic Gel
Flash Point: Minus 15°C minimum
Bond Strength Development at 20°C. 0.8mm gap:
BS 4346 requirement:
1 hour = 0.6 MPa
24 hours = 2.0 Mpa
336 hours = 5.0 Mpa
MS 660 typical:
1 hour = 0.7 Mpa
24 hours = 2.2 Mpa
336 hours = 5.1 MPa
Cleaner: Indasol CT 52
Packaging: 12.5ml to 150ml tubes; 125ml. 250ml and 500ml screw cap cans; range of containers up to 200 litre drums.
Storage Life: 12 months when stored in a dry environment between 5°C and 20°C in original unopened containers.

APPLICATION:
Cut pipe squarely, remove swarf from inner and outer edges and lightly chamfer outer edge. Lightly abrade pipe and socket with emery cloth then de-grease with fresh absorbent paper soaked in CT 52 cleaning fluid.

Using a clean brush, quickly apply an even and generous coating of cement to the pipe in a lengthwise direction and a similar but lighter coat to the fitting.

Immediately push together to the full depth, without twisting. Hold in place for 20-30 seconds then clean off excess adhesive. Allow at least 10 minutes before handling and a further 8 hours before putting into service.

Reseal can immediately after use.

- **Non drip application**
- **Rapid bond development**
- **High bond strength**
- **Conforms to BS 4346 Part 3 (1982)**

HEALTH and SAFETY DATA:
Full Health and Safety information on **Indasol MS 660** is available from the manufacturer.

IMPORTANT NOTE:
All the information in this Data Sheet is based on practical experience and is published in good faith. However, because we have no control over the manner or conditions in which our products are used, or over work undertaken or end product manufactured by the purchaser, we cannot accept liability for results. Responsibility for ascertaining the suitability of products for his purposes rests with the purchaser. All conditions, representations, statements, warranties or guarantees whatsoever, whether express, implied or statutory, in respect of any goods manufactured, sold or supplied by us are hereby expressly excluded and we accept no liability in respect of any claim for damage or consequential loss caused to any property arising directly or indirectly out of the use of our products or goods.

Issue: August 1998

Material Safety Data Sheet

According to 91/155 EC

Printing date 06.02.2004 Reviewed on 06.12.2003

1 Identification of substance

- **Product details**
- **Trade name MS 660**
- **Application of the substance / the preparation** Adhesives
- **Manufacturer/Supplier:**
  H.B. Fuller Austria Produktions GesmbH
  Kaplanstraße 30
  A-4600 Wels
  Tel. +43 (0) 7242/211770-0
- **Informing department:** Quality Control
- **Emergency information:**
  0043 / 1 / 4064343 (Vergiftungsinformationszentrale)

2 Composition/Data on components:

- **Chemical characterization**
- **Description:** Solvent mixture with additives.
- **Dangerous components:**
  109-99-9 tetrahydrofuran 50-100 %
  Xi, F; R 11-19-36/37
  EINECS: 203-726-8
  108-94-1 cyclohexanone 5-10 %
  Xn; R 10-20
  EINECS: 203-631-1
- **Additional information**
  For the wording of the listed risk phrases refer to section 16.

3 Hazards identification

- **Hazard designation:**
  Xi Irritant
  F Highly flammable
- **Information pertaining to particular dangers for man and environment**
  The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
  R 11 Highly flammable.
  R 19 May form explosive peroxides.
  R 36/37 Irritating to eyes and respiratory system.
- **Classification system**
  The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

4 First aid measures

- **After inhalation** Supply fresh air; consult doctor in case of symptoms.
- **After skin contact** The product is not skin irritating.
- **After eye contact**
  Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.
- **After swallowing** In case of persistent symptoms consult doctor.

5 Fire fighting measures

- **Suitable extinguishing agents**
  CO2, extinguishing powder or water jet. Fight larger fires with water jet.
  Foam
- **For safety reasons unsuitable extinguishing agents**
  Water with a full water jet.
- **Special hazards caused by the material, its products of combustion or flue gases:**
  Formation of toxic gases is possible during heating or in case of fire.
- **Protective equipment:**
  Do not inhale explosion gases or combustion gases.
- **Additional information**
  Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
  Collect contaminated fire fighting water separately. It must not enter drains.

6 Accidental release measures

- **Person-related safety precautions:**
  Wear protective equipment. Keep unprotected persons away.
  Ensure adequate ventilation
  Keep away from ignition sources
  Use breathing protection against the effects of fumes/dust/aerosol.
  Wear protective clothing.
- **Measures for environmental protection:**
  Prevent material from reaching sewage system, holes and cellars.
- **Measures for cleaning/collecting:**
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Ensure adequate ventilation.
  Send for recovery or disposal in suitable containers.
  Use non sparking handtools.

7 Handling and storage

- **Handling**
- **Information for safe handling:**
  Store in cool, dry place in tightly closed containers.
  Ensure good ventilation/exhaustion at the workplace.
  Open and handle container with care.
  Ensure that suitable extractors are available on processing machines
  Take note of emission threshold.
  Use solvent-proof equipment.
  Keep away from children
  Keep eye wash bottles available on working place.
- **Information about protection against explosions and fires:**
  Keep ignition sources away - Do not smoke.
  Protect from heat.
  Protect against electrostatic charges.
  Highly volatile, flammable constituents are released during processing.
  Fumes can combine with air to form an explosive mixture.
  Flammable mixtures may be formed in empty containers.
- **Storage**
- **Requirements to be met by storerooms and containers:**
  Store in cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
  Store in cool, dry conditions in well sealed containers.

8 Exposure controls and personal protection

- **Additional information about design of technical systems:**
  Please take care on national and local requirements.
- **Components with critical values that require monitoring at the workplace:**
  109-99-9 tetrahydrofuran

OES (Great Britain):	Short-term value: 300 mg/m?, 100 ppm
	Long-term value: 150 mg/m?, 50 ppm
	IOELV, Sk

  108-94-1 cyclohexanone

OES (Great Britain):	Short-term value: 20 ppm
	Long-term value: 10 ppm
	IOELV, Sk

- **Additional information:**
  Based on information valid at the time of writing.
- **Personal protective equipment**

- **General protective and hygienic measures**
  Keep away from food, drink and animal feedingstuffs.
  Instantly remove any soiled and impregnated garments.
  Wash hands during breaks and at the end of the work.
  Do not inhale gases / fumes / aerosols.
  Avoid close or long term contact with the skin.
  Avoid contact with the eyes.
- **Breathing equipment:**
  In case of brief exposure or low pollution (exceeding of TLV) use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.
- **Protection of hands:**
  Solvent resistant gloves
  The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
- **Material of gloves** Natural rubber, NR
- **Penetration time of glove material**
  The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Tightly sealed safety glasses.
- **Body protection:** Protective work clothing.

9 Physical and chemical properties:

- **General Information**
- **Form:**
  Fluid
  Highly viscous
- **Colour:** Clear
- **Smell:** Characteristic

	Value/Range	Unit	Method
Change in condition			
Melting point/Melting range:	Not determined		
Boiling point/Boiling range:	65 ° C		
Flash point:	-21 ° C		
Ignition temperature:	230.0 ° C		
Self-inflammability:	Product is not selfigniting.		
Danger of explosion:	Forming of peroxides is possible! May form explosive peroxides.		
Critical values for explosion:			
Lower:	1.5 Vol %		
Upper:	12.0 Vol %		

- **Vapour pressure:** at 20 ° C 200.0 hPa
- **Density** at 20 ° C 0.969 g/cm^3
- **Solubility in / Miscibility with**
- **Water:** Not miscible or difficult to mix
- **Viscosity:**
- **dynamic:** at 20 ° C 15000 mPas
- **Solvent content:**
- **Organic solvents:** 79.5 %
- **Solids content:** 20.5 %

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**
  No decomposition if used according to specifications.
- **Dangerous reactions** Develops readily flammable vapours / fumes
- **Dangerous products of decomposition:**
  No dangerous decomposition products known

11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritant effect.
- **Sensitization:** No sensitizing effect known.
- **Additional toxicological information:**
  The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
  Irritant

12 Ecological information:

- **General notes:**
  Water hazard class 1 (Self-assessment): slightly hazardous for water.
  Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

13 Disposal considerations

- **Product:**
- **Recommendation**
  Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
  Hand over to disposers of hazardous waste.
- **European waste catalogue**
  08 04 09: waste adhesives and sealants containing organic solvents or other dangerous substances
- **Uncleaned packagings:**
- **Recommendation:**
  Disposal must be made according to official regulations.

14 Transport information

- **Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)**
- **ADR/RID-GGVS/E Class:** 3 Flammable liquids.
- **Kemler Number:** 30
- **UN-Number:** 1133
- **Packaging group:** III
- **Label** 3
- **Designation of goods:** 1133 ADHESIVES, special provision 640H

- **Maritime transport IMDG/GGVSea:**
- **IMDG/GGVSea Class:** 3
- **UN Number:** 1133
- **Label** 3
- **Packaging group:** III
- **EMS Number:** F-E,S-D
- **Marine pollutant:** No
- **Correct technical name:** ADHESIVES
- **Remarks:** Suitable UN approved container necessary.

- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** 3
- **UN/ID Number:** 1133
- **Label** 3
- **Packaging group:** III
- **Correct technical name:** ADHESIVES
- **Remarks:** Suitable UN approved container necessary.

15 Regulatory information

- **Designation according to EC guidelines:**
  The product has been classified and labelled in accordance with EC Directives / Chemicals (Hazard, Informaion and Packaging for Supply) (CHIP) Regulations.
- **Code letter and hazard designation of product:**
  Xi Irritant F Highly flammable
- **Risk phrases:**
  11 Highly flammable.
  19 May form explosive peroxides.
  36/37 Irritating to eyes and respiratory system.
- **Safety phrases:**
  2 Keep out of the reach of children.
  16 Keep away from sources of ignition — No smoking.
  23 Do not breathe fumes.
  36/37 Wear suitable protective clothing and gloves.
  51 Use only in well-ventilated areas.
- **National regulations**
- **Technical instructions (air):**
  This classification is only relevant for Germany and Austria.
  Class Share in %
  II 79.5
- **Water hazard class:**
  Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information:

- These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
- The information provided about the product on this Safety Sheet has been compiled from knowledge of the individual constituent.
- The data given here only applies when product used for proper application(s). The product is not sold as suitable for other applications - usage in such may cause risks not mentioned in this sheet. Do not use for other application(s) without seeking advice from manufacturer.
- **Full text of risk phrases referred to in section 2.**
  10 Flammable.
  11 Highly flammable.
  19 May form explosive peroxides.
  20 Harmful by inhalation.
  36/37 Irritating to eyes and respiratory system.
- **Department issuing data specification sheet:** Quality Control
- **Contact:**
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