

June 1999

PRODUCT DESCRIPTION

LOCTITE[®] Product Pipe Seal[®] 55 is a general purpose threaded pipe sealant. It is a non-curing coated multifilament thread, which is wound from the dispensing package onto the threads of the pipe. The product is supplied in handy containers, which serve for both storage and dispensing purposes. This product has potable water and gas approval (KTW & DVGW, Germany and BS, Great Britain) and provides instant seal immediately after assembly.

TYPICAL APPLICATIONS

Sealing threaded components (ISO 7/1) such as pipe couplings and fittings, with either parallel or tapered threads against aqueous and non-aqueous fluids up to a temperature of 130°C. Particularly suitable in situations where threaded assemblies are required to be ready for immediate use and may undergo small readjustment before use.

Recommended for use on fittings up to 6" O.D.

Storage

The containers should be kept sealed until use. For long term storage purposes the containers should be stored in a cool, dry location between 8°C - 21°C (46°F - 70°F). For further specific shelf-life information, contact your local Technical Service Centre.

MATERIAL PROPERTIES

Pre-coated multifilament thread.

Basic Composition	
Chemical Type	Thread: PA Coating: Inert proprietary paste
Appearance	white

PRODUCT PERFORMANCE

Approval tests according to EN 751-2 for a class ARp compound

Section	Description	Result
7.2.1.2	Soundness test	No Leaks
7.2.1.3	Soundness test after 45° joint adjustment	No Leaks
7.2.1.4	Resistance to gas condensates	No Leaks
7.2.1.5	Hot water resistance test	No Leaks
7.2.1.6	Temperature cycling test	No Leaks
7.2.1.7	Vibration test	No Leaks
7.2.2	Compatibility with foam forming leak tester	Passed
7.2.3	Test of hardening and dismantling	Passed

TYPICAL ENVIRONMENTAL RESISTANCE

Resistant against family gases 1st, 2nd, 3rd, cold and hot water

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidising materials.

Approvals

This product has been tested and conforms to EN 751-2 for a class ARp compound which forms the basis for DVGW approval (Certificate No. AZ: 98/250/5142/1 and has been approved for use in potable water pipe fittings and connections by the KTW for cold and hot water. It also has potable water approval to BS 6920. Copies of the approval certificates can be obtained through your local Technical Service Centre.

Directions for use

The fibre is wound onto the pipe threads in the same direction as the thread helix starting from the end of the pipe. For optimum function the grooves of the threads should be filled without completely masking the points of the thread. The fibre can be cut to length using the splice on the lid of the container. The fibre is spiral wound in the container and will unwind without snagging for simple dispensing. Ensure that the product is applied with certain pretension. On smooth surfaces threads have to be roughened before applying Loctite 55.

Note

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This product may be covered by one or more patents or patent applications.

PERFORMANCE OF CURED MATERIAL

(After 24 hr at 22°C on M10 steel nuts & bolts)

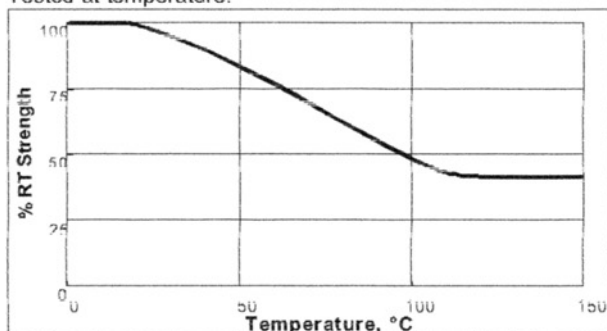
	Typical	
	Value	Range
Breakaway Torque, ISO 10964 (4.3), N.m (lb.in)	20 (180)	15 to 25 (130 to 220)
Prevail Torque, ISO 10964 (4.5), N.m (lb.in)	7 (62)	4 to 10 (35 to 88)
Breakloose Torque, DIN 54454, N.m (lb.in)	24 (210)	14 to 34 (120 to 300)
Max. Prevail Torque, DIN 54454, N.m (lb.in)	24 (210)	14 to 34 (120 to 300)

TYPICAL ENVIRONMENTAL RESISTANCE

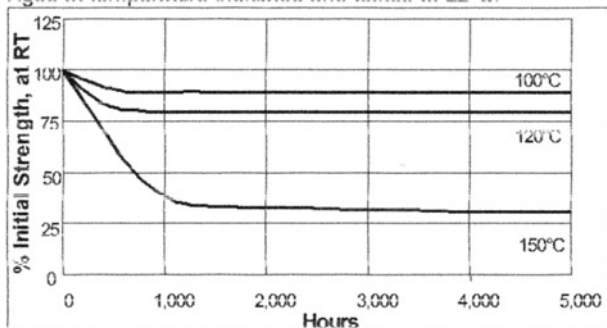
Test Procedure : Breakloose Torque, DIN 54454
 Substrate: M10 Zinc Phosphate Nuts&Bolts
 Cure procedure: 1 week at 22°C

Hot Strength

Tested at temperature.

**Heat Ageing**

Aged at temperature indicated and tested at 22°C.

**Chemical / Solvent Resistance**

Aged under conditions indicated and tested at 22°C.

Solvent	Temp.	% Initial Strength retained at			
		100 hr	500 hr	1000 hr	5000 hr
Motor Oil	125°C	95	95	95	95
Leaded Petrol	22°C	100	100	95	95
Brake Fluid	22°C	100	100	100	100
Water/Glycol (50%/50%)	87°C	95	80	80	80
Ethanol	22°C	100	85	85	85
Acetone	22°C	100	100	85	85

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidising materials.

For safe handling information on this product, consult the Material Safety Data Sheet, (MSDS).

Where aqueous washing systems are used to clean the surfaces before bonding, it is important to check for compatibility of the washing solution with the adhesive. In some cases these aqueous washes can affect the cure and performance of the adhesive.

This product is not normally recommended for use on plastics (particularly thermoplastic materials where stress cracking of the plastic could result). Users are recommended to confirm compatibility of the product with such substrates.

Directions for use

For best performance surfaces should be clean and free of grease. Product should be applied to the bolt in sufficient quantity to fill all engaged threads. This product performs best in thin bond gaps, (0.05mm). Very large thread sizes may create large gaps which will affect cure speed and strength. This product is designed to give controlled friction, (torque/tension ratio), during assembly. In critical tightening applications this ratio should be confirmed.

Storage

Product shall be ideally stored in a cool, dry location in unopened containers at a temperature between 8°C to 28°C (46°F to 82°F) unless otherwise labelled. Optimal storage is at the lower half of this temperature range. To prevent contamination of unused product, do not return any material to its original container. For further specific shelf life information, contact your local Technical Service Centre.

Data Ranges

The data contained herein may be reported as a typical value and/or range (based on the mean value ± 2 standard deviations). Values are based on actual test data and are verified on a periodic basis.

Note

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1. PRODUCT AND COMPANY INFORMATION

Product Code 0128561
Trade Name 243

2. COMPOSITION / INFORMATION ON INGREDIENTS

Nature Product based on polyethyleneglycol dimethacrylate.
Anaerobic thread sealant.

Hazardous Components in Product for EC

Component Name	Concentration	R Phrases	Classification
Maleic Acid	0.10 - 0.40	R22, R36/37/38	Xn
Cumene Hydroperoxide 80%	1.00 - 3.00	R7, R21/22, R23, R34, R48/20/22, R51/53	O, T, N
1-Acetyl-2-phenylhydrazine	0.10 - 0.30	R20/21/22, R40, R38, R43	Xn

3. HAZARD IDENTIFICATION

This product is not classified as hazardous.

Prolonged contact with skin, particularly damaged skin, may cause sensitization or dermatitis in sensitive individuals.

4. FIRST AID MEASURES

First Aid - Inhalation

Should not be a problem as product is of low volatility. However, if feeling unwell remove patient to fresh air.

First Aid - Skin

Wash skin with plenty of soap and water.

First Aid - Eyes

Flush eyes immediately with plenty of water for at least 15 minutes.

First Aid - Ingestion

Give plenty of water to drink. Do not induce vomiting. Obtain medical attention.

5. FIRE FIGHTING MEASURES

Non flammable product (flash point is greater than 100°C (CC)).

If product is involved in fire extinguish with dry powder, foam or carbon dioxide.

Trace amounts of toxic fumes may be released on incineration and the use of breathing apparatus is recommended.

6. ACCIDENTAL RELEASE MEASURES

Ventilate area.

For small spills wipe up with paper towel and place in container for disposal.

For large spills absorb onto inert absorbent material and place in sealed container for disposal.

6. ACCIDENTAL RELEASE MEASURES

Wash spillage site thoroughly with soap and water or detergent solution.

7. HANDLING AND STORAGE**Handling**

Loctite applicators are recommended to minimise skin contact, particularly where workers are handling sharp or threaded parts which might result in microlaceration of sensitive areas of the skin.

Prolonged or repeated skin contact should be avoided to minimise any risk of sensitisation.

Storage

Store in original containers at 8°C-21°C and do not return residual materials to containers as contamination may reduce the shelf life of the bulk product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

In circumstances where there is a potential for prolonged or repeated skin contact, the use of disposable gloves (polyethylene, natural rubber or equivalent ester-resistant material) is recommended. Use of Loctite applicator equipment is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid.
Colour	Blue. Opaque.
Odour	Characteristic.
pH	Not soluble in water.
Boiling Range/Point (°C)	> 150
Flash Point (CC) (°C)	>100
Specific Gravity	1.08.
Solubility in Water (kg/m³)	Immiscible.
Solubility in Acetone	Miscible
Vapour Pressure (mmHg @25°C)	<0.1
Explosion Limits (%)	N/A

10. STABILITY AND REACTIVITY

Non reactive to water.

Non reactive to oxidising agents except for peroxides.

Polymerisation may occur after some time in the absence of air and/or the presence of a metal; However, the product is adequately stabilised to ensure that premature polymerisation does not occur under normal conditions of use.

11. TOXICOLOGICAL INFORMATION**Inhalation**

Due to the low volatility of the product there are no hazards associated with inhalation under normal conditions of use.

Skin

Acute dermal LD50 (rabbit) is estimated to be greater than 2000mg/kg. Although it is not a common sensitizer there may be a risk of sensitization on prolonged or repeated contact with damaged skin.

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Health & Regulatory Affairs - Europe

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11. TOXICOLOGICAL INFORMATION**Eyes**

May cause mild irritation to the eyes.

Ingestion

This product is considered to be of low toxicity having an acute oral LD50 (rat) >5000mg/kg by analogy to other similar products.

12. ECOLOGICAL INFORMATION

Keep away from drains and open waters.

Does not contain substances listed on the Montreal protocol.

Biodegradable product of low ecotoxicity.

Biological and Chemical Oxygen Demands (BOD and COD) of cured Loctite products are insignificant.

In the cured state contribution of this product to Environmental Hazards is insignificant in comparison to articles in which it is used.

Precautions required with respect to Environmental Hazards of articles in which this product is used should be considered.

13. DISPOSAL CONSIDERATIONS

After use, tubes, cartons and bottles containing residual product should be disposed of as "chemically contaminated waste" in an authorised legal land fill site or incinerated.

Dispose of in accordance with local and national regulations.

Contribution of this product to waste is very insignificant in comparison to article in which it is used. Regulations governing disposal of individual articles apply.

Large quantities of unused products may be disposed as chemical waste after polymerizing by adding Loctite Activator 7638 or 7641.

14. TRANSPORT INFORMATION

UN Number	None
Air (IATA)	Not classified.
Sea (IMO)	Not classified.
Road (ADR)/Rail (RID)	Not classified.

15. REGULATORY INFORMATION

Contains	1-Acetyl-2-phenylhydrazine. May produce an allergic reaction
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Labelling Information

R phrases	None.
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S phrases	S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S28 After contact with skin, wash immediately with plenty of soap and water.
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Voluntary Labelling	N/A
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16. OTHER INFORMATION

MSDS first issued	15 January 1997
MSDS data revised	31 May 2002

LOCTITE

Loctite Corporation

Environmental Health & Safety Affairs
Health & Regulatory Affairs - Europe

SAFETY DATA SHEET

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16. OTHER INFORMATION

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Health & Regulatory Affairs - Europe

Supersedes Safety Data Sheet No: 0128561 DATED 23/8/2000

This safety data sheet was prepared in accordance with Commission Directive 2001/59/EC adapting to technical progress for the 28th time Council Directive 67/548/EEC.

The information in this safety data sheet was obtained from reputable sources and to the best of our knowledge is accurate and current at the mentioned date. Neither Loctite nor its subsidiary companies accept any liability arising out of the use of the information provided here or the use, application or processing of the product(s) described herein.
