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**TECHNICAL DATA**

**Isonol 93**

*POLYURETHANE CURATIVE*

**Isonol 93** is a low molecular weight, highly reactive triol that is used as a curative for polyurethane prepolymers. **Isonol 93** can be used by itself or in combination with other curatives to produce polyurethanes with lower hardness than expected with MOCA. For example an 83 Shore A polyurethane can be cured with **Isonol 93** to produce 55 Shore A.

**TYPICAL ANALYSIS**

<b>Average Equivalent Weight</b>	93
<b>Hydroxyl Number</b>	620
<b>OH Content (%)</b>	18.8
<b>Viscosity @ 25°C (cps)</b>	750
<b>Specific Gravity @ 25°C</b>	1.150
<b>Flash point (closed cup ASTM D93) (°C)</b>	196

**FORMULATIONS**

To calculate the amount of **Isonol 93** required to cure an elastomer, the following can be used;

$$\text{Parts By Weight Isonol 93 required to cure 100 pbw prepolymer} = \frac{\% \text{NCO} \times 93/42 \times \% \text{Theory}}{100}$$

The following example is for **RN-3038** polyester polyurethane:

Hardness (Shore A)	Parts By Weight			
	RN-3038	Isonol 93	Ethacure 300	Santicizer 160
50	100	6.7	0	10
55	100	6.7	0	0
60	100	5.4	1.5	0
65	100	4.7	2.3	0
70	100	4.0	3.1	0
75	100	3.7	3.5	0
82	100	0	7.7	0

Hardness (Shore A)	Parts By Weight			
	RN-3038	Isonol 93	Moca	Santicizer 160
50	100	6.7	0	10
55	100	6.7	0	0
60	100	5.4	2.0	0
65	100	4.7	3.0	0
70	100	4.0	3.8	0
75	100	3.7	4.3	0
82	100	0	9.5	0

This information is of general nature and is supplied without recommendation of guarantee. It does not make claim to be free from patent infringement. Properties shown are typical and do not imply specification tolerances. Era Polymers cannot accept liability for loss or damage through use. Whilst these technical details are based on expert knowledge, practical experience and laboratory testing, successful application depends upon the nature and conditions in which the products are supplied. Users must, by comprehensive testing, evaluate this product in their own application.



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## NOTES

1. All hardness results are averages, expect  $\pm 3$  Shore A.
2. Add **Isonol 93** to **RN-3038**, mix and degas, followed by addition of **Ethacure 300** or **Moca**.
3. A suitable catalyst such as **Eracat** can be added. As a guide, 55 Shore A formulation will have a working life of approximately 60 minutes.

**Isonol 93** can be used with **Santicizer 160** (plasticiser) to lower the hardness below 52 Shore A. Typically the plasticizer is mixed into the prepolymer, followed by the addition of the curative. It is good practice to add a suitable catalyst such as **Eracat** (0.5 to 1.0 pbw) to aid curing. The following formulations will give a guide to the hardness.

Santicizer 160 (pbw)	Hardness (Shore A)
30	40
40	35
50	32
60	30
70	28
80	25

For further details contact **Era Polymers** Technical Department.

## HANDLING AND STORAGE

Store **Isonol 93** in a cool, dry place between 15 - 30°C. Keep container closed and free of moisture.

## SAFETY PRECAUTIONS

Polyurethanes or polyisocyanurates produced from this product may present a fire hazard in certain applications if exposed to fire and/or excessive heat, eg. Welding and cutting torches, in the presence of oxygen or air. Polyurethanes and polyisocyanurates produced from this product in combination with phosphorus containing flame-retardants may, when pyrolyzed at temperatures at and above 300°C, produce toxic by products.

This product causes eye and skin irritation. Vapour irritating. Avoid contact with eyes, skin and clothing. Avoid breathing vapour and mist. If handled indoors, provide mechanical exhaust ventilation.

Wear clean rubber gloves, goggles and clean waterproof or clean protective clothing (coveralls, rubber boots, cap, etc.). Destroy and replace gloves frequently. For disposal of this waste, bury or landfill; DO NOT place in municipal sewer systems.

## FIRST AID

**INHALATION:** Treat symptomatically. Remove to fresh air and if necessary use vasodilators and oxygen. If reaction is extreme, call a physician.

**SKIN CONTACT:** Wash thoroughly with soap and water, or rubbing alcohol.

**EYE CONTACT:** Flush eyes with water for at least 15 minutes. Call a physician.

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