

HUNTSMAN

Enriching lives through innovation



ADHESIVES

Flexible packaging adhesives



SUPRASEC® MDI



Adhesives

Adhesives based on Huntsman Polyurethanes' technology bond an extensive range of materials and resist a wide variety of adverse physical conditions and chemical environments. Their versatility makes them a raw material of choice for the formulation of sealants, rubbercrumb, panel laminating, flexible packaging or reactive hot melt adhesives.

Flexible packaging adhesives

Flexible packaging wraps combine various layers of foil which are glued on top of each other using MDI*-based products. Packaging adhesives based on SUPRASEC®, IROSTIC® and IRODUR® products from Huntsman Polyurethanes provide heat resistance or high temperatures such as microwaves, resistance to low temperatures for freezer storage and resistance to water and chemicals inherent in food packaging.

* Methylene di-isocyanate

SUPRASEC®-MDI product range for flexible packaging adhesives

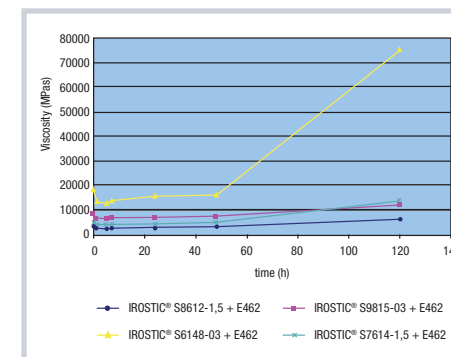
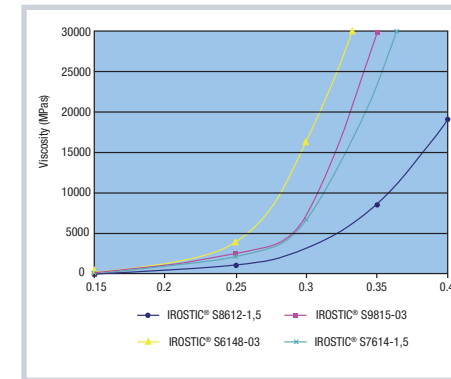
SUPRASEC®	Stabilized	Reactivity	Storage	Stability
1000	No	High	Liquid at 40°C	10 days
1400	Yes	High	Liquid at 40°C	10 days
1100	Yes	Low	Liquid at 40°C	10 days
2020	No	High	Liquid at RT	3 months
1004	No	Medium	Liquid at RT	3 months
2004	Yes	Medium	Liquid at RT	3 months

All products are FDA 175.105 and 90/128/EEC compliant.
Individual product and safety data sheets are available upon request.

TPU industrial adhesives for flexible packaging

High solid content IROSTIC® solutions for flexible packaging

- Machine requirement: - max. viscosity 10.000 mPa*s
- Potlife: - min. 60 min.



Where IROSTIC® is used as a two-component adhesive, the potlife must be taken into account. Even at room temperature, the cross linking reaction starts at the moment that the cross-linking agent is added to the adhesive solution. The viscosity will gradually increase.

IROSTIC®	IROSTIC® in MEK [%]	Viscosity [mPas]
S 6148-03	15	300
	25	4000
	30	16400
	35	40000
	40	80000
S 7614-1,5	15	150
	25	2300
	30	6950
	35	23500
	40	50000
S 8612-1,5	15	150
	25	1175
	30	3250
	35	8600
	40	19200
S 9815-03	15	300
	25	2500
	30	7280
	35	29800
	40	60000

Crosslinking

Crosslinking reaction



Viscosity 30% IROSTIC® solutions + 6% IRODUR® E 462

30% IROSTIC® in MEK	Crosslinker (6%)	Viscosity [mPas]						
		0 h	1 h	5 h	7 h	24 h	48h	120h
IROSTIC® OH-terminated	IRODUR® NCO-terminated							
S 6148-03	E 462	18500	13200	12600	13400	15400	16000	75100
S 7614-1,5	E 462	5020	3860	3780	3850	4180	4680	13600
S 8612-1,5	E 462	3250	2590	2480	2550	2710	3090	6120
S 9815-03	E 462	8360	6310	6160	6340	6720	7050	11700

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Huntsman Polyurethanes is committed to your business and can offer fast and flexible response to your needs

Believing in confidential dialogue, we offer direct links into the laboratories with full technical backup. Commercial support and dedicated customer service is available throughout Europe, Asia and the US.

Contact us

ACE@Huntsman.com

Phone: 32 (0)2 758 9420

Fax: 32 (0)2 758 7420

www.huntsman.com/pu/ACE

The Huntsman story

Global resources for local needs

Huntsman Polyurethanes is a business division of Huntsman Corporation. Huntsman is a global manufacturer and marketer of differentiated chemicals. Its operating companies manufacture products for a variety of global industries including chemicals, plastics, automotive, aviation, textiles, footwear, paints and coatings, construction, technology, agriculture, health care, detergent, personal care, furniture, appliances and packaging. Originally known for pioneering innovations in packaging, and later rapid and integrated growth in petrochemicals, Huntsman today has 13,000 employees and 78 operations in 24 countries. The company had 2007 revenues of over \$ 10 billion.

Huntsman Polyurethanes warrants only that its products meet the specifications agreed with the buyer. Typical properties, where stated, are to be considered as representative of current production and should not be treated as specifications.

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Products may be toxic and require special precautions in handling. The user should obtain Safety Data Sheets from Huntsman Polyurethanes and Huntsman Performance Products containing detailed information on toxicity, together with proper shipping, handling and storage procedures, and should comply with all applicable safety and environmental standards.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent on the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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