

*Eastotac*  
**Hydrocarbon  
Resins**



MARKETED BY  
**HARWICK STANDARD  
DISTRIBUTION CORPORATION**  
60 S. Seiberling Street • Akron, Ohio 44305

**EASTMAN**



*Eastotac* hydrocarbon resin flaking belts

# Introduction

---

*Eastotac* resins are hydrogenated C<sub>5</sub> aliphatic hydrocarbon tackifying resins. They are characterized by low odor, good solubility, excellent heat stability, and low color. These products also exhibit good tackifying characteristics and broad compatibility with numerous elastomers, polymers, and other resins.

*Eastotac* hydrocarbon resins are produced from petroleum feedstock by polymerization followed by hydrogenation. These hydrocarbon resins are available in a range of saturation levels from controlled unsaturation to full saturation. They have good color, heat stability, and aging properties that can carry through to the final product in which they are used.

*Eastotac* resins are available in four color levels with varying softening points, which allow the selection of the resin most suitable for a particular application. Typical physical properties and color grades of these resins are listed in Table 1. Solubility characteristics are shown in Table 2, and compatibility information is found in Table 4.

*Eastotac* resins have a stable shelf life of at least one year under typical warehouse conditions. Exposure to direct sunlight or moisture should be avoided. Exposure to temperatures above 50°C (120°F) for extended periods may cause some fusion of the low-softening-point grades of *Eastotac* resin. This fusion will not impair the quality of the material.

## Applications

*Eastotac* resins are used as tackifying resins for pressure-sensitive adhesives, hot-melt adhesives, caulks, and sealants. These resins are especially suited for low molecular weight polyethylene-based hot-melt adhesives where elevated temperature resistance and high cohesive strength are required. In ethylene-vinyl acetate-based hot melts, *Eastotac* resins provide good compatibility and low cloud points for applications such as glue sticks where product clarity is of high importance. They are also effective tackifiers for amorphous polyolefins suitable for laminating, product assembly, and applications where substrates are particularly difficult to bond.

Used as components in hot-melt adhesives, *Eastotac* resins provide improved surface wetting and lower viscosities at elevated temperatures for compositions based on low molecular weight polyethylene polymers, amorphous polyolefins, or ethylene-vinyl acetate copolymers. Table 3 shows general composition ranges in hot-melt adhesives.

In pressure-sensitive adhesives, caulks, and sealants, *Eastotac* resins are effective tackifiers for a broad range of elastomers including block copolymers, butyl, and natural rubbers. Good UV and oxidative stability impart outstanding weatherability. Being soluble in most aromatic and aliphatic hydrocarbon solvents makes these resins useful with various solvent-

based systems. In clear sealants or adhesives where very low color is a requirement, "W" grade resins are suggested.

Other applications for *Eastotac* hydrocarbon resins include tackifiers and processing aids for various rubber systems; additives for certain types of inks, paints, and varnishes; textile sizes in dry-cleaning solutions; and base polymers for investment casting and highway marking. Also, these resins can be coemulsified with *Epolene E* polyethylene polymers.

All *Eastotac* resins are manufactured in Longview, Texas, in state-of-the-art manufacturing facilities that provide consistent, high-quality products.

## Packaging

The standard package for *Eastotac* hydrocarbon resins is a 50-pound (22.7-kg) multiwall paper bag. Samples (2-pound) are available for evaluation. *Eastotac* H-100R and H-130R are also available in the United States for shipment in 44,000-pound molten bulk tank trucks.

## FDA Status

In the United States, *Eastotac* hydrocarbon resins are lawful for use in food packaging adhesives under the conditions defined in Food Additive Regulation 21 CFR 175.105. In other countries, consult the appropriate government regulatory agency concerning this use.

Table 1

Typical Properties of *Eastotac* Hydrocarbon Resins<sup>a</sup>

PROPERTY	H-100E	H-100R	H-100L	H-100W	H-115E	H-115R	H-115L	H-115W	H-130E	H-130R	H-130L	H-130W	H-142R
Ring & Ball Softening Point, °C (°F)	100 (212)	100 (212)	100 (212)	100 (212)	115 (239)	115 (239)	115 (239)	115 (239)	130 (266)	130 (266)	130 (266)	130 (266)	142 (288)
Physical Form	Flake	Flake/Molten	Flake	Flake	Flake	Flake	Flake	Flake	Flake/Molten	Flake	Flake	Flake	Flake
Gardner Color (Molten)	8	4	2	<1	8	4	2	<1	8	4	2	<1	4
Gardner Color (50% in Toluene)	6+	2+	<1	<1	6+	2+	<1	<1	6+	2+	<1	<1	2+
Yellowness Index <sup>b</sup> (50% in Toluene)	92	38	16	3	92	38	16	3	92	38	16	3	38
Acid Number	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Density	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Viscosity, Brookfield Thermosel, 190°C (374°F), mPa·s	200	200	200	200	400	400	400	400	1,200	1,200	1,200	1,200	3,000
Bromine Number	15	5	3	1	15	5	3	1	15	5	3	1	5
Chlorides, total, ppm	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ash, %	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001
Flash Point, Cleveland Open Cup, °C (°F)	242 (468)	242 (468)	242 (468)	242 (468)	257 (495)	257 (495)	257 (495)	257 (495)	299 (570)	299 (570)	299 (570)	299 (570)	321 (610)
Fire Point, Cleveland Open Cup, °C (°F)	266 (510)	266 (510)	266 (510)	266 (510)	283 (542)	283 (542)	283 (542)	283 (542)	325 (617)	325 (617)	325 (617)	325 (617)	335 (635)

<sup>a</sup>Reported for information only. Eastman makes no representation that the material in any particular shipment will conform exactly to the values given.

<sup>b</sup>ASTM D 1925, 2-cm cell.

**Table 2**  
**Solubility Characteristics of**  
***Eastotac* Hydrocarbon Resins**  
**(1:3 Hydrocarbon Resin:Solvent Ratio, 25°C)**

Solvent	Solubility
Acetone	Slightly soluble
Chloroform	Soluble
Ethyl alcohol	Insoluble
Heptane	Soluble
Hexane	Soluble
Isopropyl alcohol	Slightly soluble
Methylene chloride	Soluble
Methyl ethyl ketone	Slightly soluble
Perchloroethylene	Soluble
Toluene	Soluble
1,1,1-Trichloroethane	Soluble
Xylene	Soluble

**Table 3**  
**General Composition Ranges for *Eastotac* Resins**  
**in Hot-Melt Adhesives**

Materials	Compositions, % by Weight		
	PE Base	APO Base	EVA Base
<i>Eastotac</i> resin	10–40	30–50	30–60
Low molecular weight polyethylene wax	60–90	0–20	—
Amorphous polyolefin	—	50–70	—
Ethylene-vinyl acetate copolymer	—	—	30–50
Petroleum wax or <i>Fischer-Tropsch</i> wax	—	—	0–20
Antioxidant	0.25–0.5	0.25–0.5	0.25–0.5

**Table 4**  
**Compatibility of *Eastotac* Resins With Other Products**

Product	Material	Supplier	Compatibility <sup>a</sup> ( <i>Eastotac</i> Resin:Material)		
			3:1	1:1	1:3
<i>Carbowax</i> 1540	Polyethylene glycol	Union Carbide Corporation	I	I	I
Cellulose acetate CA-398-10	Cellulose acetate	Eastman	I	I	I
Ethyl cellulose	—	Hercules Incorporated	I	I	I
<i>Emery</i> 3796-R	Polyamide resin	Emery Industries, Inc.	PC	I	I
<i>Elvax</i> 150	Ethylene-vinyl acetate copolymer	E. I. du Pont de Nemours & Co., Inc.	I <sup>b</sup>	I <sup>b</sup>	C
<i>Elvax</i> 220	Ethylene-vinyl acetate copolymer	E. I. du Pont de Nemours & Co., Inc.	C	C	C
<i>Elvax</i> 420	Ethylene-vinyl acetate copolymer	E. I. du Pont de Nemours & Co., Inc.	C	C	C
<i>Epolene</i> C-10	Polyethylene polymer	Eastman	C	C	C
<i>Eastman</i> DOP plasticizer	Diocetyl phthalate	Eastman	C	C	C
Microcrystalline wax	—	Astrowax Corporation	C	C	C
<i>Nirez</i> 1135	Polyterpene resin	Arizona Chemical	C	C	C
Paraffin	Petroleum wax	Astrowax Corporation	C	C	C
<i>Vinylite</i> AYAC	Polyvinyl acetate	Union Carbide Corporation	PC	PC	PC
<i>Vistanex</i> LM-MH	Polyisobutylene	Exxon Chemical Company	C	C	C
<i>Wing-Tack</i> 95	Hydrocarbon resin	Goodyear Tire & Rubber Co.	C	C	C
<i>Staybelite</i> ester 10	Wood rosin ester	Hercules Incorporated	C	C	C
Natural rubber	—	—	C	C	C
<i>Natsyn</i> 2200	Synthetic isoprene	Goodyear Tire & Rubber Co.	C	C	C
SBR rubber	Styrene-butadiene	B. F. Goodrich	C	C	C
Butyl rubber	—	Polysar, Inc.	C	C	C
<i>Indopol</i> H-1500	Polybutene	Amoco Chemicals Corporation	C	C	C
<i>Kraton</i> 1102	SBS block copolymer	Shell Chemical Company	C	C	C
<i>Kraton</i> 1107	SIS block copolymer	Shell Chemical Company	C	C	C
<i>Kraton</i> G 1652	SEBS block copolymer	Shell Chemical Company	C	C	C

<sup>a</sup>C = Compatible, PC = Partially Compatible (hazy), I = Incompatible.

<sup>b</sup>A mixture of 35% *Elvax* 150, 20% 140° paraffin, and 45% *Eastotac* hydrocarbon resin is compatible.

## Information

**Eastman Chemical Company**  
**Corporate Headquarters**  
**P.O. Box 431**  
**Kingsport, TN 37662-5280**  
**U.S.A.**

---

**Telephone:**

U.S.A. and Canada  
800-EASTMAN  
(800-327-8626)

Other Locations  
1-423-229-2000

**Facsimile:**

1-423-229-1673

<http://www.eastman.com>

MARKETED BY  
**HARWICK STANDARD**  
DISTRIBUTION CORPORATION  
60 S. Seiberling Street • Akron, Ohio 44305

Material Safety Data Sheets providing safety precautions that should be observed in handling and storing Eastman products are available on request. You should obtain and review the available material safety information before handling any of these products. If any materials are mentioned that are not Eastman products, appropriate industrial hygiene and other safety precautions recommended by their manufacturers should be observed.

*Neither Eastman Chemical Company nor its marketing affiliates shall be responsible for the use of this information, or of any product, method, or apparatus mentioned, and you must make your own determination of its suitability and completeness for your own use, for the protection of the environment, and for the health and safety of your employees and purchasers of your products. No warranty is made of the merchantability or fitness of any product, and nothing herein waives any of the Seller's conditions of sale.*

*Eastman, Eastotac, and Epolene are trademarks of Eastman Chemical Company.*

© Eastman Chemical Company, 1996.

**EASTMAN**