

Soarnol™ AT4403

ETHYLENE VINYL ALCOHOL COPOLYMER (EVOH)

44 mol% Ethylene Content

Application

Soarnol™ AT4403 is one of the standard grades of Soarnol™, its ethylene content is 44 mol% with a low MFR (melt flow rate). Soarnol™ AT4403 has excellent water resistance and good gas barrier property, especially in high humidity environments. Its gas barrier property is not drastically lower at high humidity. This resin is primarily used in co-extruded blown film applications, and can also be used in shrink packaging.

General Properties

Properties	Unit	Value
Ethylene Content	mol%	44
MFR ¹⁾ (210 degree C, 2160g)	g/10min	3.5
Volatile Matter	%	< 0.3
Melting Point ²⁾	degree C	164
Crystallization Temp. ²⁾	degree C	144
Glass Transition Temp. ²⁾	degree C	55
Density ³⁾ (23 degree C)	g/cm ³	1.14
Oxygen Permeability ⁴⁾ (20 degree C x 65%RH)	cc.20μm / m ² .day.atm cc.mil / 100inch ² .day.atm	1.5 0.076

1): Measured with Melt Indexer

2): Measured with DSC, both heating and cooling speeds of 10 degree C/min

3): Measured with Micromeritics Gas Pycnometer

4): Measured with OXTRAN 2/20 (MOCON)

*The above figures are representative values and are not guaranteed.

Melt Viscosity

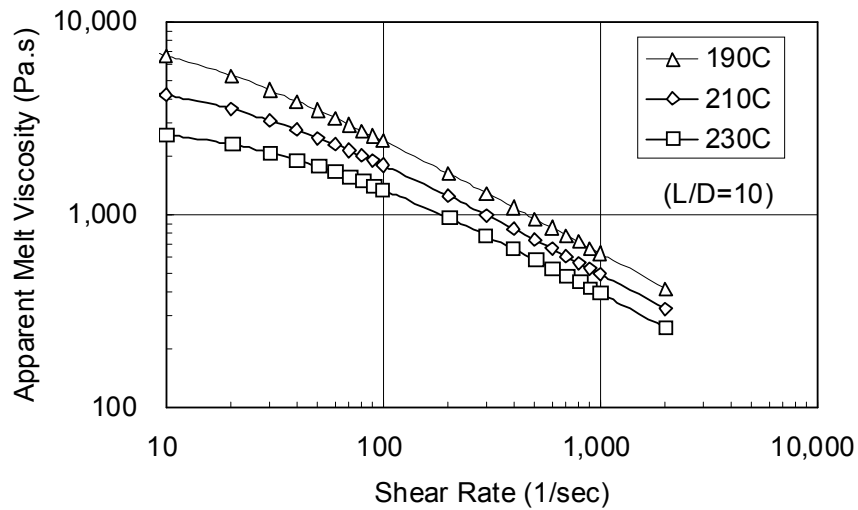


Fig. 1 Melt Viscosity of Soamol™ AT4403

Example of Processing

Extruder : 40 mmφ L/D = 28
 Screw : full flight, constant pitch type, C.R. = 3.5
 Screen pack : 90/90 mesh

Processing Temperature

	C ₁	C ₂	C ₃	C ₄	C ₅	AD
deg.C	170-200	185-210	200-230	200-230	200-230	200-230
deg.F	338-392	365-410	392-446	392-446	392-446	392-446

Quality and Safety for Application of Soarnol™ AT4403

High quality Soarnol™ is produced by Mizushima plant in Japan, NOLTEX L.L.C. in U.S.A. and NIPPON GOHSEI UK Ltd. in U.K.. All plants are certified to meet the requirement of ISO 9001.

Soarnol™ contains no heavy metals or other harmful substances. Soarnol™ meets the Food Sanitation Standards of various countries.

U.S.A : US FDA 21, C.F.R. 177.1360

EU : Commission Regulation (EU)No. 10/2011 and its amendments

JAPAN : Ministry of Health and Welfare Announcement No.370(1959) and Its Latest Amendment No.18(1994)

Voluntary Standards for Food Contact Substances and Polymers (JHOSPA)

Soarnol™ Contacts

Soarus L.L.C	3930 Ventura Drive, Suite 355, Arlington Heights, IL 60004, USA TEL +1-847-255-1211 FAX +1-847-255-4343
NIPPON GOHSEI Head Quarters	Osaka FUKOKU SEIMEI BUILDING, 2-4 Komatsubara-cho, Kita-ku Osaka 530-0018, Japan TEL +81-6-7711-5424 FAX +81-6-7711-5452
NIPPON GOHSEI Europe GmbH	Merowingerplatz 1a, D-40225, Duesseldorf, Germany, Life Science Center TEL +49-211-385488-0 FAX +49-211-385488-29
NICHIGO SHANGHAI Co., Ltd.	Room 904, The Center, No.989 Chang Le Road, Shanghai 200031,China TEL +86-21-5407-6333 FAX +86-21-5407-6038
NIPPON GOSEI (THAILAND) Co., Ltd.	100/62, 30th Floor, Sathorn Nakorn Tower, North Sathorn Road, Kwang Silom, Khet Bangrak, Bangkok 10500, Thailand TEL +66-2-267-1843 FAX +66-2-267-1864
Processing-Technique Development Center	8-1, Matsue 4-chome, Kurashiki, Okayama 712-8052, Japan TEL +81-86-455-5214 FAX +81-86-455-5289

URL: <http://www.soarnol.com/>

<http://www.soarus.com/>

<http://www.nichigo.co.jp/>