

ISOCRYL® EP-455
GLYCIDYL ACRYLIC RESIN
FOR CLEAR POWDER COATINGS

Experimental Product



THE EDGE OF INNOVATION

www.estrone.com

GENERAL DESCRIPTION

Isocryl® EP-455 is a glycidyl functional acrylic resin designed for clear powder coating applications that demand superior clarity, smoothness, UV durability, inter-coat adhesion and compatibility with other powder coating binder systems.

TYPICAL PROPERTIES*

Appearance	Clear Granules
Specific Gravity (25/25)	1.1 – 1.2
Glass Transition Temperature, Tg	59°C
Softening Point, RING & BALL	105 – 130°C
Epoxy Equivalent Weight	390 - 430
Non-Volatile, weight %	98.5% minimum
Gardner Color 50% IN BUTYL ACETATE	1 Maximum

* Not to be used for specification purposes

REGULATORY LISTINGS

The components in these materials are either listed or exempt from listing due to polymer exemption criteria for the following chemical listing inventories: AICS (Australia), DSL (Canada), ECL (Korea), ENCS (Japan), IECSC (China), NDSL (Canada), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA), VNECI (Vietnam).

All components of this product are REACH registered per ECHA requirements.

PACKAGING (NET WEIGHT)

44 lb. / 20 kg in fiberboard box with polyolefin liner

PRODUCT AVAILABILITY

This product is experimental and requires lead time.

STORAGE AND HANDLING

Keep container tightly closed and store in a dry, well-ventilated area away from heat and sources of ignition. See the SDS for detailed information on shelf life.

REPRESENTATIVE FORMULATION

Isocryl resin EP-455 is formulated with Dodecanedioic Acid (DDDA) at a binder ratio of 78/22. Other aliphatic dicarboxylic acids may be used, but the binder ratio should be recalculated for balanced stoichiometry. The formulation below is based on laboratory experimental data. Commercially scaled-up formulations require optimization of raw material concentrations and processing conditions to meet the individual customer's requirements. Resiflow® P-64F is recommended for flow control to achieve optimum clarity and smoothness.

COMPONENT	Wt%
Isocryl EP-455	78
DDDA	22
Benzoin	0.5
Irganox 1076	0.2
Tinuvin 144	0.5
Tinuvin 900	0.5
Resiflow P-64F	1.8

**ISOCRYL® EP-455
GLYCIDYL ACRYLIC RESIN
FOR CLEAR POWDER COATINGS**

Experimental Product



THE EDGE OF INNOVATION

www.estron.com

FORMULATION CONDITIONS

All raw materials require a high intensity pre-mix prior to extrusion.

EXTRUSION CONDITIONS

Zone 1 - 90°C

Zone 2 - 90°C

Screw - 250 rpm, double extrusion

CURE CONDITIONS*

10 minutes at 200°C peak metal temperature.

15 minutes at 180°C peak metal temperature.

20 minutes at 160°C peak metal temperature.

**For optimum smoothness, spray a film build of 50-75 microns and cure at higher temperatures if the substrate allows.*

CONTACT INFORMATION

807 N. Main Street

P.O. Box 127

Calvert City, KY 42029 USA

(270) 395-4195 PHONE

(270) 395-5070 FAX

Version Number: 02

Revision Date: August 25, 2020

TDS Revised by: A. Chizhikova

TDS Approved by: F. Allen