

Epichlorohydrin

September 2021

Abstract

Epichlorohydrin (ECH) is an intermediate chemical used in the production of epoxy resins (about 90% of the total global market), synthetic glycerin, epichlorohydrin elastomers, specialty water treatment chemicals, wet-strength resins for paper production, and surfactants. Little synthetic glycerin is produced, as abundant supplies are available as by-products from biodiesel production.

Mainland China continued to substantially expand its epichlorohydrin capacity in the past decade, now accounting for about 55% of global nameplate capacity. Dow Chemical divested its global epichlorohydrin and epoxy resins businesses in 2015, along with certain other related operations, to Olin. However, Dow still retains its attractive value-added downstream operations. The other large, long-standing, Western-based producers are Hexion and Huntsman; both have scaled back commodity-based operations in recent years and are instead focusing on value-added downstream specialty operations.

The traditional petrochemical process for making epichlorohydrin consumes propylene and chlorine, but there has been increased commercialization of biorenewable, glycerin-based epichlorohydrin capacity, specifically glycerin derived as a by-product from the manufacture of biodiesel. Operating rates of the glycerin-based plants have increased in recent years due to the greater supplies of glycerin at competitive pricing and the drive for more ecologically sound processes. During 2019–21, mainland China's epichlorohydrin industry expanded by over 500,000 metric tons annually, of which the glycerin process accounted for 90%.

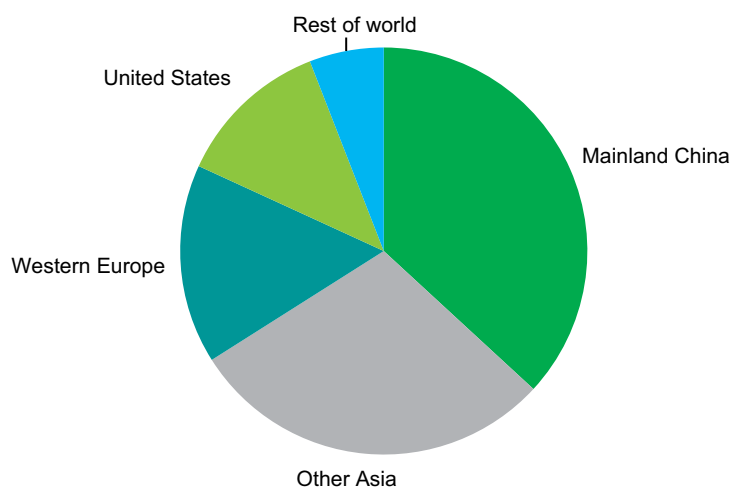
The following pie chart shows world consumption of epichlorohydrin by major region:

Contacts

IHS Markit Customer Care • CustomerCare@ihsmarkit.com



World consumption of epichlorohydrin—2021



Source: IHS Markit

© 2021 IHS Markit

In their cured form, epoxy resins possess outstanding properties, including toughness, resistance to moisture and chemicals, high tensile strength, and good dielectric properties. They are used in a variety of applications. Protective coatings are the largest market, accounting for 45–50% of consumption; other large markets are electrical/electronics, adhesives, construction, and composites.

Global consumption of epichlorohydrin is expected to grow at an average annual rate of about 3.5% during 2021–26, driven primarily by the production of epoxy resin. The fastest-growing markets will continue to be in Asia, particularly mainland China and India.

For more detailed information, see the table of contents, shown below.

IHS Markit's Chemical Economics Handbook – *Epichlorohydrin* is the comprehensive and trusted guide for anyone seeking information on this industry. This latest report details global and regional information, including



Global summary;
regional coverage



Producers with
annual capacities
and plant sites



Production figures
and trends



Consumption and
forecasts by end use
application



Manufacturing
processes and
environmental issues



Trade – imports
and exports

Key benefits

IHS Markit's Chemical Economics Handbook – *Epichlorohydrin* has been compiled using primary interviews with key suppliers and organizations, and leading representatives from the industry in combination with IHS Markit's unparalleled access to upstream and downstream market intelligence and expert insights into industry dynamics, trade, and economics.

This report can help you

- Identify trends and driving forces influencing chemical markets
- Forecast and plan for future demand
- Understand the impact of competing materials
- Identify and evaluate potential customers and competitors
- Evaluate producers
- Track changing prices and trade movements
- Analyze the impact of feedstocks, regulations, and other factors on chemical profitability

Contents

Executive summary	5
Summary	6
Introduction	9
Manufacturing processes	10
Environmental issues	12
Supply and demand by region	13
United States	13
– Producing companies	13
– Production	13
– Consumption	14
– Epoxy resins	14
– Polyamide-epichlorohydrin resins	15
– Water treatment chemicals	15
– Epichlorohydrin elastomers	15
– Synthetic glycerin	16
– Other	16
– Price	16
– Trade	17
– Imports	17
– Exports	17
Central and South America	18
Western Europe	18
– Producing companies	18
– Production	20
– Consumption	20
– Epoxy resins	21
– Synthetic glycerin	21
– Other	22
– Polyamide-epichlorohydrin (PAE) resins	22
– Glycidyl ether	22
– Polyamines	22
– Price	22
– Trade	23
– Imports	23
– Exports	24
Central and Eastern Europe	25
– Producing companies	25
– Salient statistics	26
– Consumption	27
– Trade	27

Middle East and Africa	28
Mainland China	29
– Producing companies	29
– Salient statistics	32
– Consumption	33
– Epoxy resins	34
– Polyamide-epichlorohydrin resins	34
– Synthetic glycerin	35
– Price	35
– Trade	36
– Imports	36
– Exports	37
Japan	37
– Producing companies	37
– Salient statistics	38
– Consumption	39
– Epoxy resins	39
– Synthetic glycerin	39
– Other	40
– Price	40
– Trade	41
– Imports	41
– Exports	41
Other Asia	42
– Producing companies	42
– Salient statistics	43
– Consumption	44
– Trade	45
Additional resources	47
Revisions	48
Data Workbook	49
Notice	50

IHS Markit Customer Care

CustomerCare@ihsmarkit.com

Asia and the Pacific Rim

Japan: +81 3 6262 1887

Asia Pacific: +604 291 3600

Europe, Middle East, and Africa: +44 (0) 1344 328 300

Americas: +1 800 447 2273

Disclaimer

The information contained in this report is confidential. Any unauthorized use, disclosure, reproduction, or dissemination, in full or in part, in any media or by any means, without the prior written permission of IHS Markit or any of its affiliates ("IHS Markit") is strictly prohibited. IHS Markit owns all IHS Markit logos and trade names contained in this report that are subject to license. Opinions, statements, estimates, and projections in this report (including other media) are solely those of the individual author(s) at the time of writing and do not necessarily reflect the opinions of IHS Markit. Neither IHS Markit nor the author(s) has any obligation to update this report in the event that any content, opinion, statement, estimate, or projection (collectively, "information") changes or subsequently becomes inaccurate. IHS Markit makes no warranty, expressed or implied, as to the accuracy, completeness, or timeliness of any information in this report, and shall not in any way be liable to any recipient for any inaccuracies or omissions. Without limiting the foregoing, IHS Markit shall have no liability whatsoever to any recipient, whether in contract, in tort (including negligence), under warranty, under statute or otherwise, in respect of any loss or damage suffered by any recipient as a result of or in connection with any information provided, or any course of action determined, by it or any third party, whether or not based on any information provided. The inclusion of a link to an external website by IHS Markit should not be understood to be an endorsement of that website or the site's owners (or their products/services). IHS Markit is not responsible for either the content or output of external websites. Copyright © 2021, IHS Markit®. All rights reserved and all intellectual property rights are retained by IHS Markit.

