

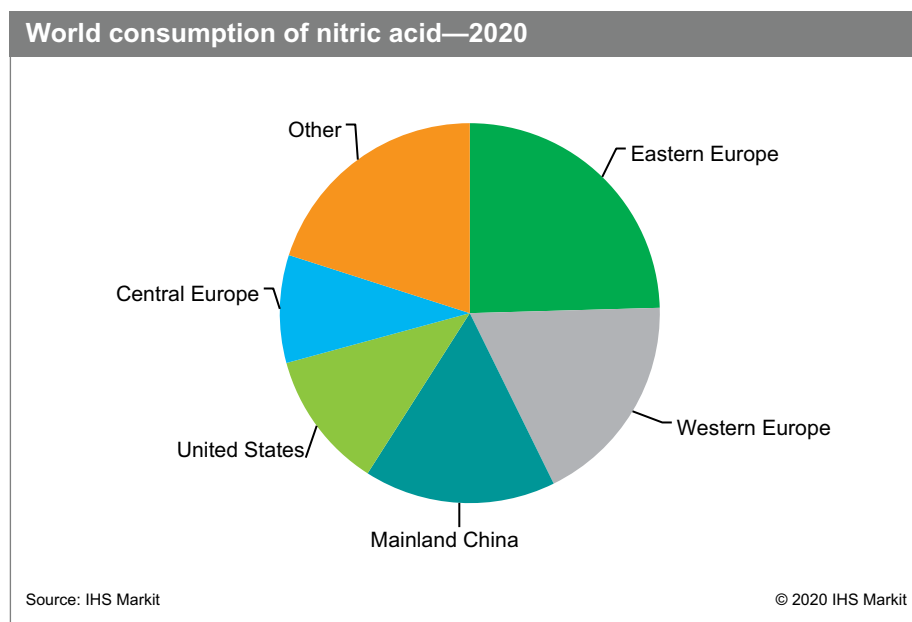
Nitric Acid

15 May 2020

Abstract

World nitric acid consumption has increased steadily since 2000. The largest market for nitric acid is the production of ammonium nitrate (AN) and calcium ammonium nitrate (CAN), accounting for almost 77% of the total world consumption of nitric acid in 2020. The major end use for AN fertilizer is in decline because of concerns about nitrate groundwater contamination and security issues. As a result, AN fertilizer is being increasingly substituted by solid urea, which has a higher nitrogen content (46%) than AN (34%), is less costly, and is less dangerous.

The following pie chart shows world consumption of nitric acid:



Nitric acid is one of the world's largest commodity chemicals. It is used predominantly as an intermediate for fertilizer production (primarily ammonium and calcium ammonium nitrate) and for the production of nitro-containing organic intermediates. In 2020, nearly 80% of nitric acid was used for fertilizer products, with the remainder used in industrial applications. The largest chemical end uses for nitric acid include nitrobenzene, adipic acid, toluene diisocyanate (TDI), and nitrochlorobenzenes. Other important end uses include the production of explosives, metal treatment, and uranium processing.

Consumption of AN in explosives and blasting agent applications continues to grow, but is much more regulated since 11 September 2001. Other nitric acid-based products such as nitrophosphates and potassium nitrates are also used in fertilizer applications.

Contacts

Maria deGuzman • Maria.deguzman@ihsmarkit.com

Most nitric acid is consumed captively, and the merchant portion of the market accounts for less than 10% of the total. International trade is minor and has little impact on the nitric acid balance. The world average operating rate has been at the high 70% level in the last 10 years, indicating a relatively healthy market balance.

The nitric acid market is dominated by fertilizer-producing companies such as Yara and CF Industries. On a global level, the market is fairly fragmented, with the top producer owning just over 10% of total installed production capacity. The top 10 producers account for about 36% of global production capacity. However, in certain regions (e.g., Western Europe and Japan), the regional share by leading companies can exceed 30%.

Europe, North America, and mainland China dominate the market statistics. Together, these regions account for more than 80% of global supply and demand. Since 2000, the largest increases in capacity, production, and consumption have occurred in mainland China.

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

IHS Markit's Chemical Economics Handbook – Nitric Acid 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 – Nitric Acid has been compiled using primary interviews with key suppliers, organizations and leading representatives from the industry in combination with IHS Markit's unparalleled access to upstream and downstream market intelligence, 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	6
Summary	7
Introduction	9
Manufacturing process	10
Basic process	10
Process variations	10
– Catalysts	10
– Operating pressures	11
– Oxidation, absorption, and concentration	11
Environmental issues	13
Supply and demand by region	15
World	15
– Capacity	15
– Salient statistics	17
– Production	17
– Consumption	19
– Ammonium nitrate (including calcium ammonium nitrate)	23
– Nitrobenzene	23
– Adipic acid	23
– Toluene diisocyanate (TDI)	23
– Metal nitrates	23
– Complex fertilizers	23
– Nitrochlorobenzene	23
– Other	24
– Trade	24
North America	25
– Overview	26
– Capacity	26
– Salient statistics	27
– Consumption	28
– United States	29
– Producing companies	29
– Salient statistics	32
– Consumption	33
– Ammonium nitrate	34
– Adipic acid	35
– Nitrobenzene	35
– Toluene diisocyanate	35
– Metal treatment	35
– Metal nitrates	36

– Other	37
– Price	38
– Trade	39
– Canada	40
– Producing companies	40
– Salient statistics	41
– Consumption	41
– Price	42
– Mexico	43
– Producing companies	43
– Salient statistics	44
– Consumption	45
South America	46
– Producing companies	46
– Capacity	48
– Salient statistics	49
– Consumption	49
– Trade	50
Western Europe	51
– Producing companies	51
– Capacity	54
– Salient statistics	55
– Consumption	56
– Price	58
– Trade	58
Central Europe	60
– Producing companies	60
– Capacity	62
– Salient statistics	63
– Consumption	64
– Price	65
– Trade	65
Eastern Europe	67
– Producing companies	67
– Capacity	69
– Salient statistics	70
– Consumption	71
– Price	72
– Trade	72
Middle East	74
– Producing companies	74
– Capacity	76
– Salient statistics	76

– Consumption	77
– Trade	78
Africa	80
– Producing companies	80
– Capacity	82
– Salient statistics	83
– Consumption	84
– Trade	84
Southwest Asia	86
– Producing companies	86
– Capacity	88
– Salient statistics	88
– Production	89
– Consumption	89
– Trade	90
Mainland China	91
– Producing companies	91
– Salient statistics	96
– Consumption	97
– Price	98
– Trade	99
Japan	100
– Producing companies	100
– Salient statistics	101
– Consumption	102
– Price	104
Other Northeast Asia	104
– Producing companies	104
– Salient statistics	105
– Consumption	106
– Trade	107
Southeast Asia	108
– Producing companies	108
– Capacity	110
– Salient statistics	110
– Production	111
– Consumption	111
– Trade	112
Additional resources	114
Revisions	115

IHS Markit Customer Care

CustomerCare@ihsmarkit.com

Americas: +1 800 IHS CARE (+1 800 447 2273)

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

Asia and the Pacific Rim: +604 291 3600

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 © 2020, IHS Markit®. All rights reserved and all intellectual property rights are retained by IHS Markit.

