



Where others see products, we see purpose.

We see therapies that safely and efficiently help to improve people's lives.

Purpose-led pharmaceutical solutions

Discover how we can work together to deliver purpose-led pharmaceutical products that meet the needs of patients worldwide.

[> Discover more inside](#)

Inspired by patients, delivered by experts

“At dsm-firmenich, we take pride in everything we do to help people live healthier lives, and we’re proud to dedicate our expertise to that noble goal.”



Kelsey Achenbach
Vice President
Pharma & Medical Nutrition



Our purpose and values

**We're here for a reason
– to bring progress to life**

We are cutting-edge scientists, breakthrough innovators and passionate creators with more than 150 years heritage of purpose-led scientific discovery and innovation.

Together with our customers, we keep paving the way forward, helping to make a positive difference for the planet and enhancing the lives of millions – day in, day out.

With our comprehensive range of solutions, ingredients of outstanding quality and science and technical capabilities, we work to create what is **essential** for life, **desirable** for consumers and more **sustainable** for the planet.

dsm-firmenich is a global, science-based company active in health, nutrition and care.

We believe in bringing progress to life, every day, everywhere for billions of people. This takes more than ingredients. It takes a partner.

When you partner with dsm-firmenich, you get an expert, purpose-led partner inspired by keeping the world's growing population healthy.

- We combine high-quality ingredients with technical expertise and a global perspective to help you succeed in an ever-evolving and challenging market
- We enable drug products to meet their full potential, ensuring they are fit for purpose to meet the needs of patients worldwide
- Our continuous drive to innovate powers the development of advanced patient-centric solutions.



Tackling the challenges of today and tomorrow

For us, sustainability is not a buzzword – it's intrinsically embedded in our purpose of bringing progress to life. We believe that finding the balance between what people individually want (the desirable), what we collectively need (the essential) and what the planet demands (the sustainable) is crucial.

Five of the United Nations' Sustainable Development Goals are woven into our corporate strategy:



Accelerating the route to net-zero with science-based targets

In 2016, we set climate targets for 2030 to track our progress as we move towards net-zero for a healthier, cleaner and more resilient future. All our targets are independently validated by **Science Based Targets initiatives (SBTi)**.

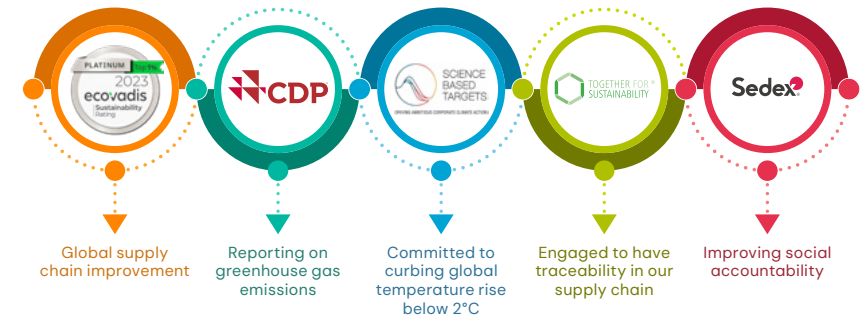


Figure 1: Partnering for a sustainable future

Helping customers reach their sustainability targets

No company can achieve net-zero on its own. To help our partners meet their sustainability goals, we have a roadmap in place, building on our Life Cycle Assessment (LCA) internal expertise, which quantifies the environmental impact of a product, technology or process throughout its entire life cycle.

Introducing the Sustainability Imp'Act Card™

- Provides clear information, including the calculated environmental impact, traceability, certifications and social impact of each ingredient
- Transparent and accurate translation of the environmental footprint at the customer level
- Supports sustainability claims.

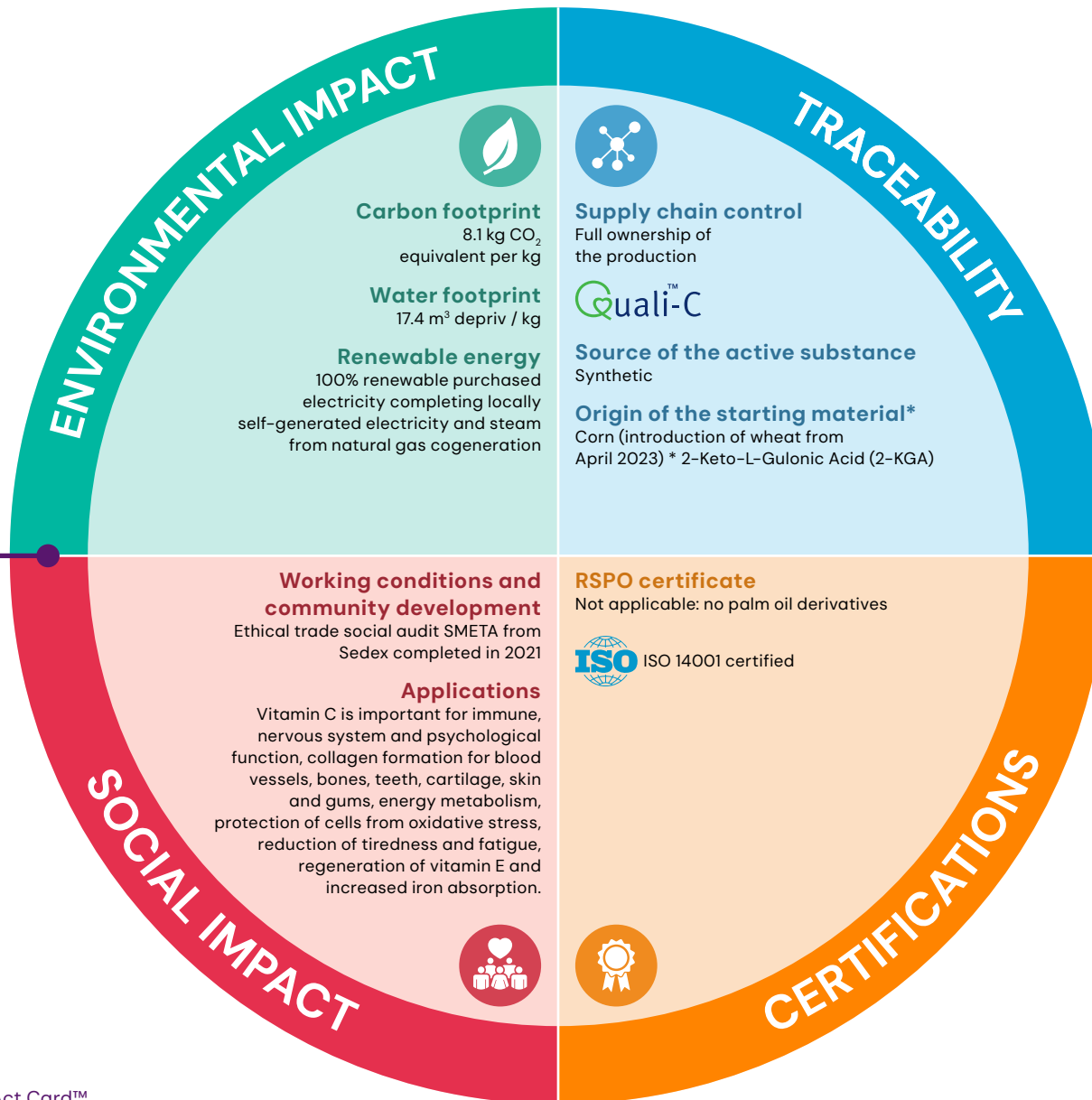
Sustainability Imp'Act card™ for Vitamin C

Ascorbic Acid (Vitamin C)

The lowest carbon footprint Vitamin C compared to the average alternative source* with 52% lower GHG emission.

The sole Vitamin C produced outside China.

Production site: Dalry (UK)
Version date: 1.09.2023



Aligned with, and contributing to the

SUSTAINABLE DEVELOPMENT GOALS



Figure 2: Ascorbic acid (vitamin C) Imp'Act Card™

*Life Cycle Assessment validated by third party in 2018 and revised in November 2022.
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A complete offering for the pharmaceutical market

Products

- **Active pharmaceutical ingredients**
Leading active pharmaceutical ingredient portfolio for innovation across a broad range of applications.
- **Functional ingredients**
Address complex formulation challenges with our excipient portfolio.
- **Lipids for Pharmaceutical use**
We offer customizable lipid intermediates for drug formulation.
- **Sustained release polymers**
Bioresorbable and non-resorbable polymers for advanced sustained release drug products.

Expert services

- **Application and technical services**
Our in-depth ingredient knowledge and expertise helps to optimize your formulations for advanced drug delivery.
- **Innovation and R&D services**
Our passion for innovation can support the evolution of your products.
- **Regulatory and quality services**
Our global regulatory expertise and commitment to quality give you the ultimate confidence that your drug products are compliant.
- **Scientific services**
We help customers remain at the forefront of the latest scientific advancements.

Customized solutions

- **Premix solutions**
Designed to help develop customized products that are as unique as the patients you serve.
- **CDMO and CMO network**
We can connect you to a global network of Contract development and manufacturing organizations (CDMOs) and Contract manufacturing organizations (CMOs) to enhance your manufacturing capabilities.

High-quality products...

...for

Life-changing therapeutic developments



Your trusted partner for APIs and Excipients – focused on your needs

Our worldwide network of GMP-certified production facilities guarantees a safe and sustainable supply of

- Vitamin, carotenoid and cannabinoid APIs
- Lipids for pharmaceutical use
- Specialty excipients.

A reliable supply and consistent quality

Partnering with dsm-firmenich means your products will benefit from a consistent high-quality and secure supply of globally trusted ingredients. This is possible through our continuous investments in the environmental health, safety and quality of our worldwide network of GMP-compliant production facilities.

Your end-to-end partner for cannabinoid-based drug development

Together with our strategic partner and cannabinoid pioneer, Brains Bioceutical, we're helping innovators realize the therapeutic potential of cannabinoid-based pharmaceuticals.

Our innovation platform

- Highest quality and purity, GMP-certified cannabidiol (CBD) API
- Pipeline of innovative CBD formulations and minor cannabinoids
- Leading-edge technical, regulatory and scientific expert services for every step for your cannabinoid drug development
- Unique ecosystem of CDMOs and partners who enhance our inhouse capabilities.



Active Pharmaceutical Ingredients (APIs)

| Product Code | Product |
|--------------|---------|
|--------------|---------|

Vitamin A

| | |
|-----------|--|
| 50 1754 5 | Retinyl Palmitate 250 CWS/F Ph |
| 04 2401 3 | Vitamin A Palmitate 1.7 MIU/g (BHA/BHT) [†] |
| 50 1626 2 | Retinyl Palmitate 1.7 MIUg Ph |
| 50 1227 9 | Dry Vitamin A Acetate 500 B [†] |
| 04 1727 0 | Vitamin A Acetate 1.0MIU/g [†] |

Natural Vitamin E

| | |
|-----------|--|
| 04 8657 4 | D- α -Tocopheryl Acetate [†] |
|-----------|--|

Vitamin E

| | |
|-----------|--|
| 50 1657 7 | Dry Vitamin E 50% CWS/S Ph [†] |
| 50 1626 0 | dl- α -Tocopheryl Acetate Ph [†] |
| 50 1674 1 | all- <i>rac</i> - α -Tocopherol Ph [†] |

Vitamin D

| | |
|-----------|--|
| 50 1621 2 | Dry Vitamin D3 100 SD/S Ph |
| 50 1647 3 | Dry Vitamin D3 100 CWS Ph [†] |
| 50 1752 4 | Vitamin D3 1.0 MIU/g Ph [†] |
| 50 1626 3 | Vitamin D3 Crystalline Ph |

Vitamin K1

| | |
|-----------|-----------------------------------|
| 04 3492 2 | Dry Vitamin K1 5% SD [†] |
| 04 3501 5 | Vitamin K1 |
| 50 1322 4 | Vitamin K1 API (US DMF only) |

Vitamin B1

| | |
|-----------|--|
| 04 2947 3 | ROCOAT Thiamine Mononitrate 33 1/3% [†] |
| 50 1625 7 | Thiamine Hydrochloride Ph |
| 04 1894 3 | Thiamine Mononitrate |

* The applicability of our portfolio for pharmaceutical application is subject to local approvals. Please check the status with local DSM Regulatory Affairs team in your closest office.

** Pharma product code to be launched within 12 months period.

[†] Represents our China portfolio

| Product Code | Product |
|--------------|---------|
|--------------|---------|

Vitamin B2

| | |
|-----------|--|
| 50 1626 1 | Riboflavin 5'-Phosphate Ph |
| 04 7040 6 | Riboflavin Universal* |
| 50 1775 4 | Riboflavin Universal Ph** |
| 04 2946 5 | Rocoat Riboflavin 33 1/3% [†] |

Vitamin B3

| | |
|-----------|--|
| 04 8784 8 | Niacinamide |
| 50 1629 1 | Niacinamide Ph (US DMF only)** |
| 04 2944 9 | Rocoat Niacinamide 33 1/3 % [†] |

Vitamin B5

| | |
|-----------|--|
| 04 1267 8 | Calcium D-Pantothenate* [†] |
| 50 1776 0 | Calcium D-Pantothenate Ph** [†] |
| 50 1625 8 | D-Panthenol Ph |

Vitamin B6

| | |
|-----------|--|
| 04 2945 7 | ROCOAT Pyridoxine Hydrochloride 33 1/3% [†] |
| 50 1646 0 | Pyridoxine Hydrochloride Ph (origin: Germany) |
| 50 1626 5 | Pyridoxine Hydrochloride Ph (origin: China) |
| 50 1602 1 | Pyridoxine Hydrochloride Ph (origin: China) [†] |

Vitamin B7

| | |
|-----------|-----------------------------------|
| 50 1626 4 | D-Biotin Ph |
| 50 1273 2 | Bitrit-1 Type A* [†] |
| TBD | Bitrit-1 Type A Ph** [†] |

Vitamin B9

| | |
|-----------|----------------------------|
| 50 1625 9 | Folic Acid Ph [†] |
|-----------|----------------------------|

| Product Code | Product |
|--------------|---------|
|--------------|---------|

Vitamin B12

| | |
|-----------|-------------------------------------|
| 50 1251 1 | Vitamin B12 1% SD |
| 04 2909 0 | Vitamin B12 0.1% WS |
| 04 2915 5 | Vitamin B12 Crystalline |
| 50 1630 0 | Vitamin B12 Crystalline Ph (US DMF) |

Vitamin C

| | |
|-----------|--|
| 04 0809 3 | Ascorbic Acid Fine Granular |
| 50 1645 0 | Ascorbic Acid Fine Powder Ph |
| 50 1625 5 | Ascorbic Acid Ph |
| 04 1944 3 | Calcium Ascorbate* |
| 50 1775 7 | Calcium Ascorbate Ph** |
| 50 1625 6 | Sodium Ascorbate Ph |
| 50 0976 6 | Ascorbic Acid Ultra Fine Powder |
| 04 2511 7 | Coated Ascorbic Acid, Type EC |
| 50 0774 7 | Ascorbic Acid 95% Granulation* |
| 50 1775 8 | Ascorbic Acid 95% gran. Ph** |
| 50 1590 1 | VC Ascorbic Acid ChPh [†] |
| 50 1590 2 | VC Ascorbic Acid inject [†] |
| 50 1608 3 | VC Ascorbic Acid ChPh Special [†] |

Beta-Carotene

| | |
|-----------|----------------------------------|
| 50 1434 4 | β -Carotene Crystalline Ph |
| 50 1438 7 | β -Carotene 30% FS Ph |
| 50 1435 2 | BetaTab® 20% S Ph [†] |

Cannabidiol

| | |
|-----------|--------------|
| 50 1714 2 | BSPG CBD API |
|-----------|--------------|

Improve your formulation with our excipient selection

Partner with us on specialty excipients for parenteral and oral applications, in small or large molecule formulations.

Did you know vitamins are highly functional ingredients?

Current uses of vitamins as excipients include:

- Antioxidants for Nitrosamine mitigation
- Stabilizers for APIs
- Process aids in cell fermentation
- Coloring agents.

Innovative uses of vitamins as highly specialized ingredients:

- Prevention of protein aggregation, including the formation of amyloid fibrils and protection of monoclonal antibodies
- Promotion of tissue regeneration
- Viscosity reducer in biopharmaceutical products
- Increase of initial absorption of insulin.

We offer specialty flavors and taste masking solutions for various solid and liquid pharmaceutical dosage forms, coupled with unmatched innovation capabilities and customized support. As your specialty excipients provider, we are ready to co-create formulations – with purpose.

Polymeric drug delivery solutions that enable innovative patient therapies

Our unrivalled expertise in synthetic polymers and formulation development enables our partners to develop both, biodegradable and biostable therapy forms for sustained release drug delivery solutions. With our proven platforms of TheraPEA™ polyester amides and polyurethanes, we aim to bring value at every stage of your product development cycle.

Explore our sustained release polymers for biomedical innovation.

[Explore now](#)

Expert services...

...supporting you from

concept

to

patient

Global network of API manufacturing capabilities

Our API quality is governed by the following certification systems

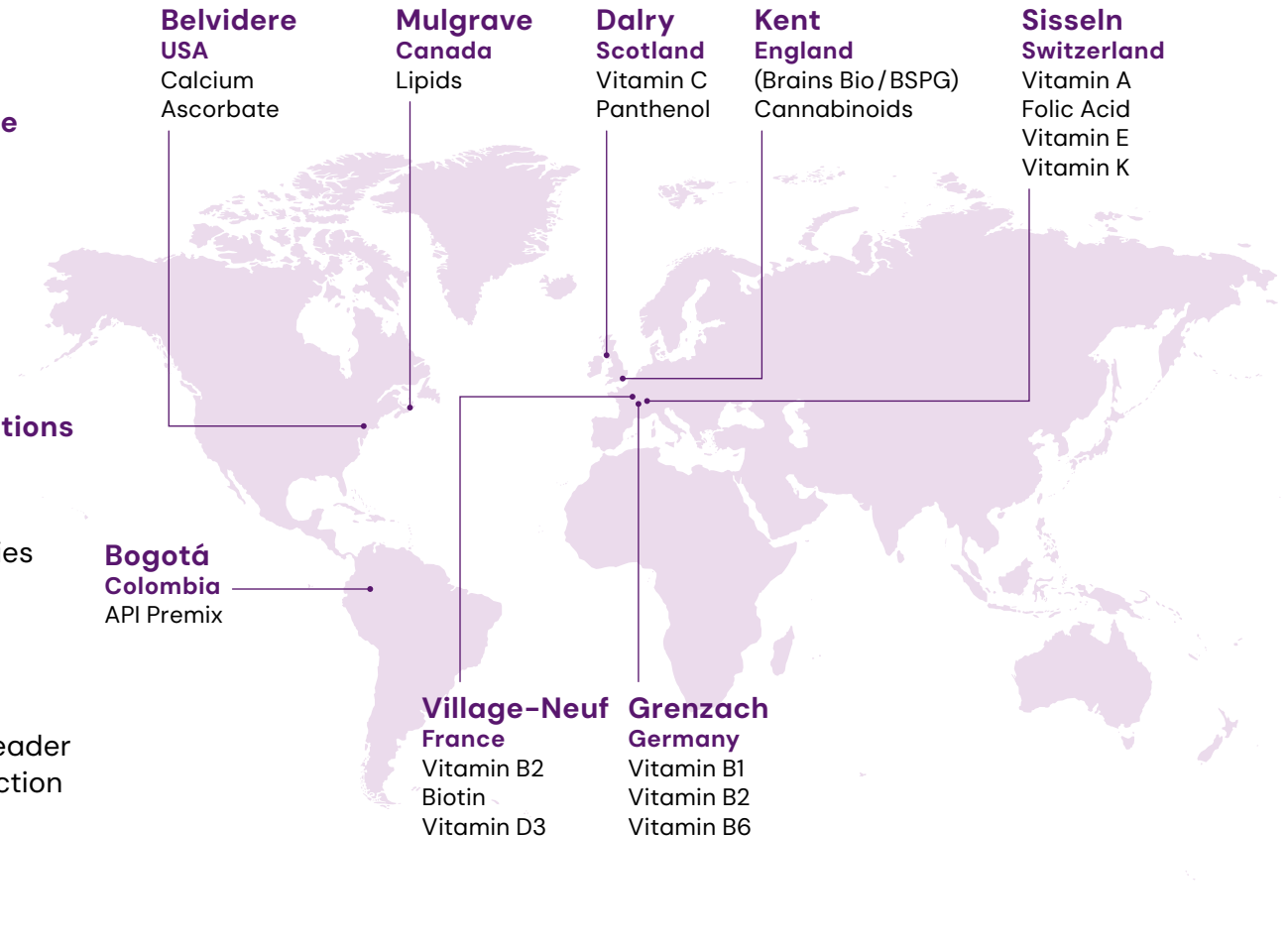
- ICH Q7 compliant
- DMF, CEP
- GMP certificates by authorities
- USP / EP / JP

We are in regular contact with authorities and industry associations

- EDQM
- US FDA
- Various National Health Authorities
- APIC
- IPEC

Our sustainability credentials

- Dow Jones Sustainability Index leader
- ISO 14001 – Environmental protection

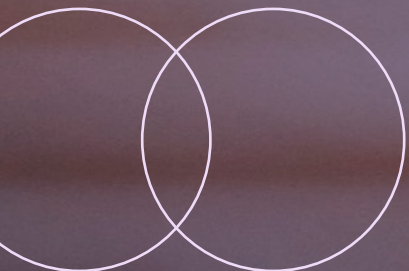


Accelerate your market entry registration process with us

Our pharma solutions service levels are optimized to bring customers confidence and peace of mind. Depending on the service level required, we can support with:

- Global regulatory expertise
- Stringent quality policies
- Advanced quality management systems
- Successful market entry
- Product life cycle management.

We are the only company in the world that can provide access to US and Japanese Drug Master Files (DMFs) and the Certificates of Suitability (CEPs) for all 13 vitamins.



Confidently address nitrosamines risk mitigation

Navigating nitrosamine risk mitigation can be a complex and challenging process. dsm-firmenich can help you find the best strategy, regardless of whether your pharmaceutical is already on the market or in development. For drug manufacturers looking to assess their formulations without impeding the performance of their API, we can support with the supply of GMP-certified ascorbic acid and alpha-tocopherol excipients, a safe and effective strategy to mitigate nitrosamine formation,^{1,2} paired with advanced expert services including:

- 1 Superior formulation and application expertise
- 2 Regulatory know-how
- 3 Commitment to innovation

Did you know?

The use of ascorbic acid is an FDA recommended mitigation strategy, proven to be a highly effective antioxidant to inhibit nitrosamine formation.

1. Nanda KK, et al. Inhibition of N-Nitrosamine Formation in Drug Products: A Model Study. J Pharm Sci. 110(12):3773-3775 (2021).
2. Homšak M, et al. Assessment of a Diverse Array of Nitrite Scavengers in Solution and Solid State: A Study of Inhibitory Effect on the Formation of Alkyl-Aryl and Dialkyl N-Nitrosamine Derivatives. Processes. 10(11):2428 (2022).

At the forefront of evolving scientific advancements

With access to the latest research, quality clinical data and close relationships with a network of influential key opinion leaders (KOLs), we help to ensure drug development pipelines are supported with the most recent scientific evidence. This is made possible via our dedicated Scientific Affairs team who act as a bridge between our world-class research and the wider pharmaceutical and medical communities.



+25 years of experience in conducting clinical trials



Capabilities to support with study design, launch, coordination and execution



Clinical trial materials



Established relationships across the scientific sector



Customized solutions...

...that are as

unique

as the

patients

you serve

Customized solutions

We understand that developing and launching pharmaceuticals may be time-consuming and complex. We also know that you have very specific development challenges. That's why we go beyond just products to offer quality customized solutions designed to your formulation needs.



Premix solutions

We have the resources and knowledge to create specific customized blends of ingredients in one single, efficient and homogenous premix to suit your application.



Trusted network of partners

We can connect you to a global network of CDMOs and CMOs to enhance your manufacturing capabilities.



Why partner with dsm-firmenich?

We're here to assist you with high-quality ingredients, customized solutions and expert services, designed to reliably support your entire product life cycle.

Together, we can create therapeutics inspired by patients and delivered by experts, for improved quality of life.

[Contact us to get started](#)

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