

always
inspiring more...

symrise 

Inspiring Sensations

Menthol and Symcool[®] Cooling Agents



Elevate and stimulate the senses with Symrise Menthols and Symcool® Products

With scientific passion and creative intuition, Symrise has developed the most extensive menthol and coolants portfolio, perfecting fresh and clean sensations to satisfy consumer demand for unique, invigorating and refreshing flavors. Our Menthols and Symcool® products help you create unique sensory experiences that will inspire consumers in a variety of applications from confectionary, to oral care, to pharmaceuticals, and more.



Symcool® Cooling Agents

The Symcool® product range offers odorless and flavorless cooling with long lasting and unique clean and fresh sensations. Symcool® will also go beyond freshness and mint flavors; it defines and enhances flavors like cinnamon, citrus and others. With the broadest range of cooling agents, the Symcool® portfolio will help you create unique sensations that will engage the consumer and will differentiate the chewing gum, mints and oral care product.



Symrise Menthol

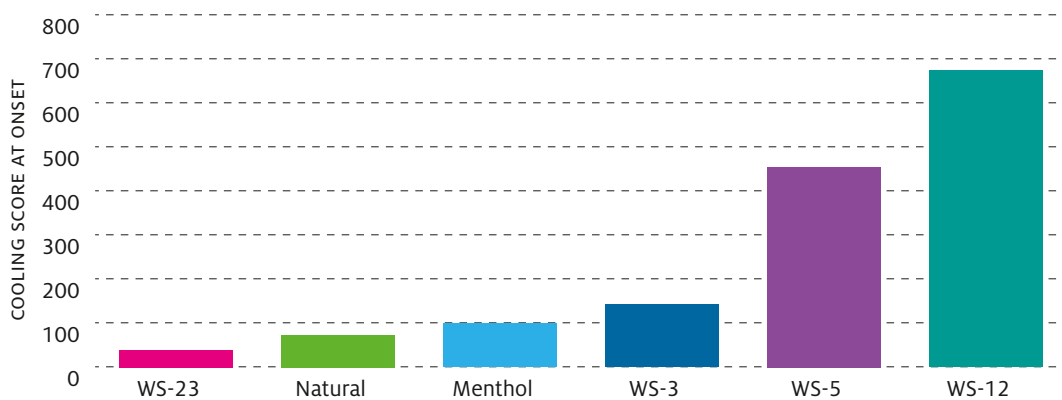
Menthol is the most well – known physiological coolant. We have been producing market – leading menthol and its derivatives since 1973. This unparalleled experience combined with our commitment to green chemistry ensures continual improvements to our manufacturing process resulting in one of the most efficient and sustainable processes in the market.

Our backwards integrated global supply chain and stable raw material source allow us to produce consistent, standardized quality 365 days of the year, independent from unpredictability from nature. We are proud of our high yield, high efficiency process which consumes minimum amount of energy and water resulting in nearly zero waste.

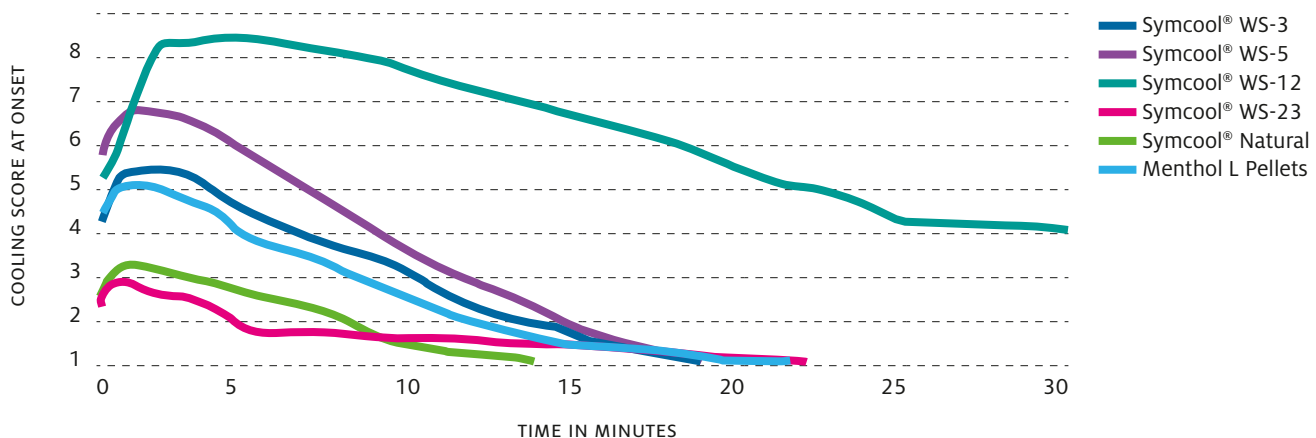
Cooling intensity and Longevity

We have evaluated the relative cooling strength and longevity of the materials at 30ppm in a sugar solution. The desired intensity of sensory perception and duration will depend on factors such as concentration, flavor interactions and other formula attributes.

Relative Cooling Strength at First Onset in relation to Menthol at 1 minute



Cooling Longevity Additional Mint Product Offerings from Symrise



Consumer Product Average Usage Level (ppm)

Product Name	Symcool® WS-12	Symcool® WS-5	Symcool® WS-3	Symcool® WS-23	Symcool® Natural	Menthol L Pellets
Beverage	1 – 5	6 – 10	15 – 20	20 – 30	25 – 35	5 – 25
Toothpaste	250 – 500	250 – 500	700 – 1000	1000 – 1500	1200 – 1700	100 – 4000
Mouthwash	50 – 150	50 – 150	100 – 300	150 – 500	200 – 700	1000 – 5000
Hard Candy	50 – 150	50 – 150	100 – 300	150 – 500	200 – 700	50 – 2000
Chewing Gum	100 – 500	150 – 300	300 – 500	500 – 750	650 – 850	100 – 3000
Hand Creams	2000 – 5000	2000 – 5000	2000 – 5000	1500 – 4000	1000 – 4000	100 – 4000

Physical Properties

Product Name	Symcool® WS-12	Symcool® WS-5	Symcool® WS-3	Symcool® WS-23	Symcool® Natural	Menthol L Pellets
Physical Form	Crystalline Powder	Crystalline Powder	Crystalline Powder	White Crystals	Liquid to Solid	Pelletized Crystals
Melting Point	177 – 181 °C	80 – 82 °C	87 – 102 °C	62 – 64 °C	41,8 °C	42 – 43 °C
Flashpoint	min. 212 °C	min. 100 °C	min. 100 °C	min. 100 °C	min. >100 °C	min. 94 °C
Purity	min. 99%	min. 99%	min. 99%	min. 100%	min. 97%	min. 99%
pH	4,75	5	6,2	9,6	3,68	7

List of References

Product Name	Symcool® WS-12	Symcool® WS-5	Symcool® WS-3	Symcool® WS-23	Symcool® Natural	Menthol L Pellets
Symrise Code	762309	762308	762305	762303	239467	620009
FEMA no.	4681	4309	3455	3804	3748	2665
FLAVIS no.	16,123	16,111	16,013	16,053	0,9551	2,015
JECFA no.	2079	1776	1601	1595	433	427
CAS no.	68489 – 09 – 8	68489 – 14 – 5 39668 – 74 – 1	39711 – 79 – 0	51115 – 67 – 4	61597 – 98 – 6 17162 – 29 – 7	2216 – 51 – 5
EC no.	N/A	254 – 573 – 9	254 – 599 – 0	256 – 974 – 4	241 – 218 – 8	218 – 690 – 9

Additional Mint Product Offerings from Symrise

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- Anethole Extra
 - L – Carvone
 - Menthol L Dist.
 - Menthol Racemic
 - Menthol RC
 - Menthone L
 - Menthone L/Isomenthone D
 - Menthone/Isomenthone Racemic
 - Menthyl Acetate L
 - Menthyl Acetate Racemic
 - Thymol



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