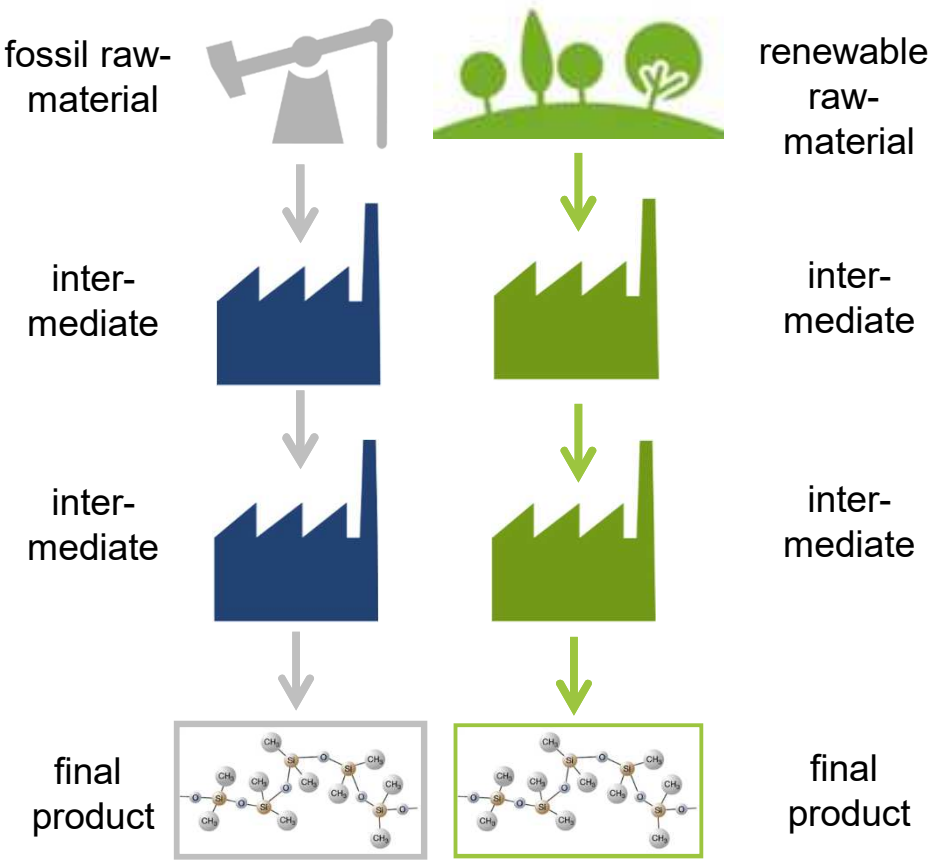
WACKER

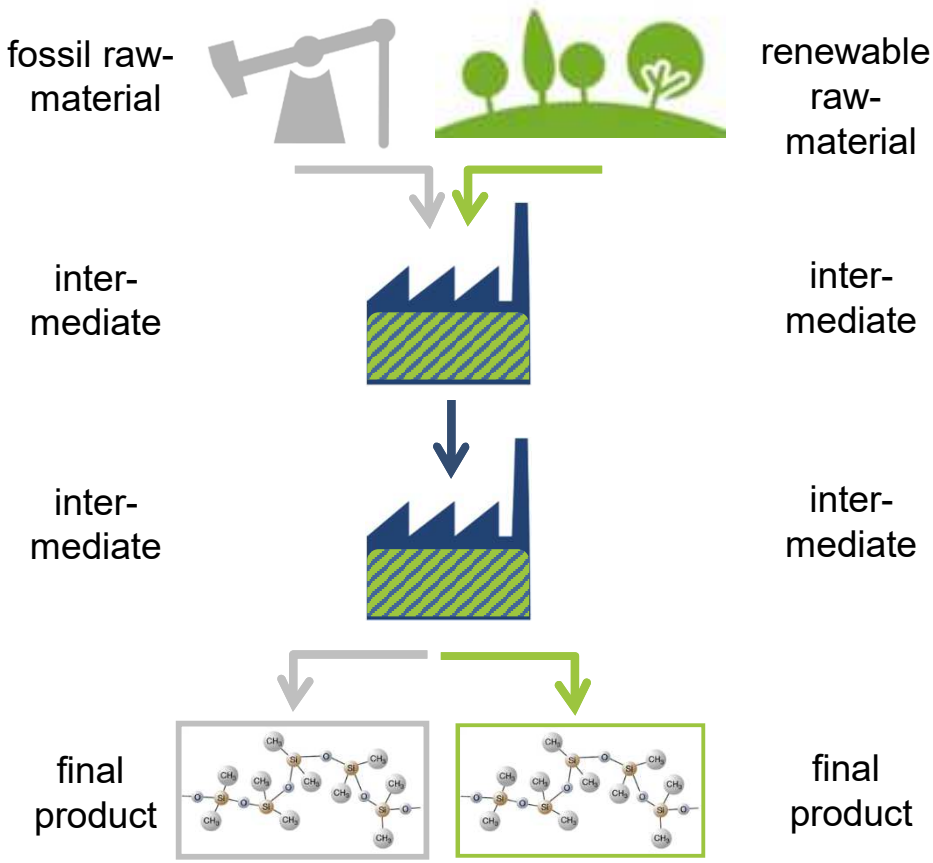
CREATING TOMORROW`S SOLUTIONS

BELSIL® eco line

Mass-Balance approach as an economic way to access silicone fluids based on fossil free raw material



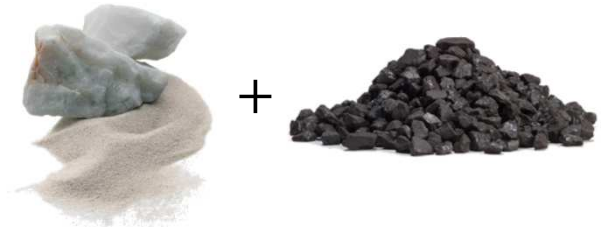
Dedicated Production



Production with Mass-Balance Approach

What's the difference ?

Base material

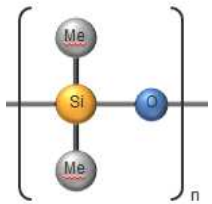


Sand (SiO_2) Coal (C)

Si

CH_3OH

fully integrated production

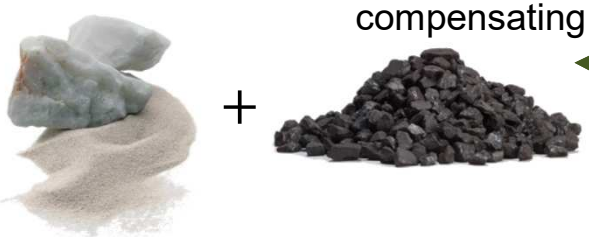


Dimethicone

BELSIL® DM

Base material

100% fossil free by compensating with add. bio-Methanol



Bio. CH_3OH

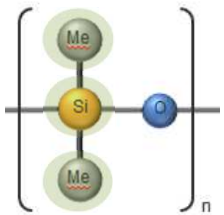
+

Sand (SiO_2) Coal (C)

Bio.CH_3OH

Si

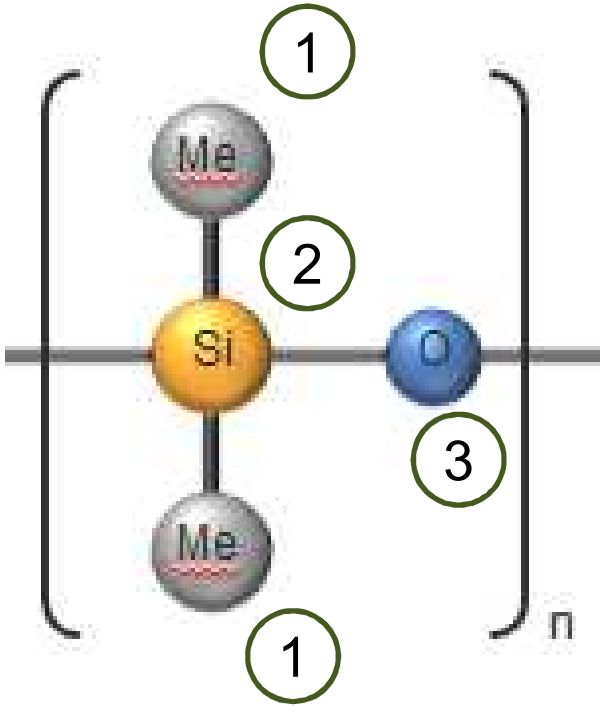
fully integrated production



Dimethicone

BELSIL® eco DM

Dimethicone based on 100% fossil free raw material

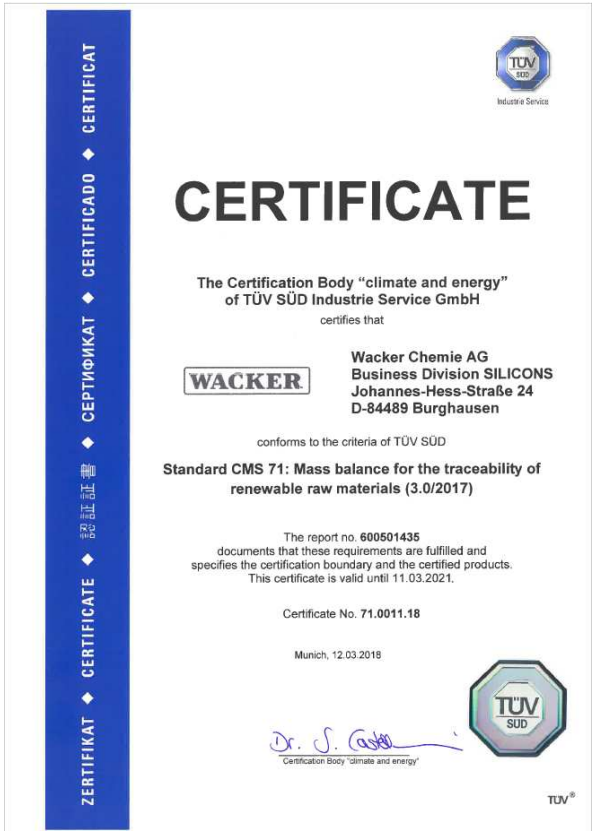


1 **Methyl units**: origin Methanol – fossil based Methanol is replaced by Biomethanol form straw , grass , sugar beets and other plants residues

2 **Silicon**: origin quartz sand is non-fossil , it is converted with coal to silicon. This fossil carbon is compensated by using an equivalent amount of biomethanol in the full integrated production plant

3 **Oxygen**: oxygen comes form hydrolysis step using water. Water is a non-fossil ingredient.

TÜV-SÜD Standard CMS 71: Mass balance for the traceability of renewable raw materials



ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

TÜV SÜD Industrie Service

CERTIFICATE

The Certification Body "climate and energy"
of TÜV SÜD Industrie Service GmbH
certifies that

WACKER

Wacker Chemie AG
Business Division SILICONS
Johannes-Hess-Straße 24
D-84489 Burghausen

conforms to the criteria of TÜV SÜD

Standard CMS 71: Mass balance for the traceability of renewable raw materials (3.0/2017)

The report no. **600501435**
documents that these requirements are fulfilled and
specifies the certification boundary and the certified products.
This certificate is valid until 11.03.2021.

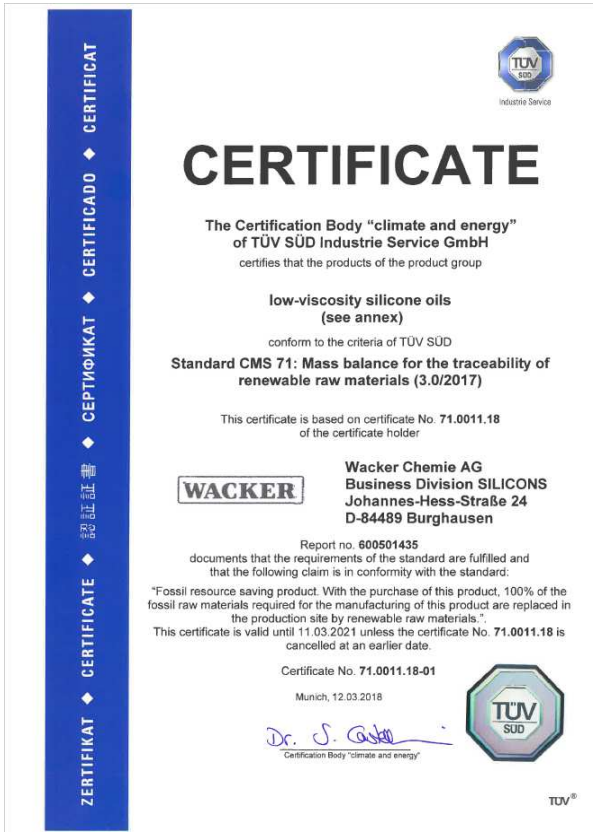
Certificate No. **71.0011.18**

Munich, 12.03.2018

Certification Body "climate and energy"

TÜV®

- **Main certificate**
- **No. 71.0011.18**



ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

TÜV SÜD Industrie Service

CERTIFICATE

The Certification Body "climate and energy"
of TÜV SÜD Industrie Service GmbH
certifies that the products of the product group

low-viscosity silicone oils
(see annex)

conform to the criteria of TÜV SÜD

Standard CMS 71: Mass balance for the traceability of renewable raw materials (3.0/2017)

This certificate is based on certificate No. **71.0011.18**
of the certificate holder

WACKER

Wacker Chemie AG
Business Division SILICONS
Johannes-Hess-Straße 24
D-84489 Burghausen

Report no. **600501435**
documents that the requirements of the standard are fulfilled and
that the following claim is in conformity with the standard:

"Fossil resource saving product. With the purchase of this product, 100% of the fossil raw materials required for the manufacturing of this product are replaced in the production site by renewable raw materials.".
This certificate is valid until 11.03.2021 unless the certificate No. **71.0011.18** is cancelled at an earlier date.

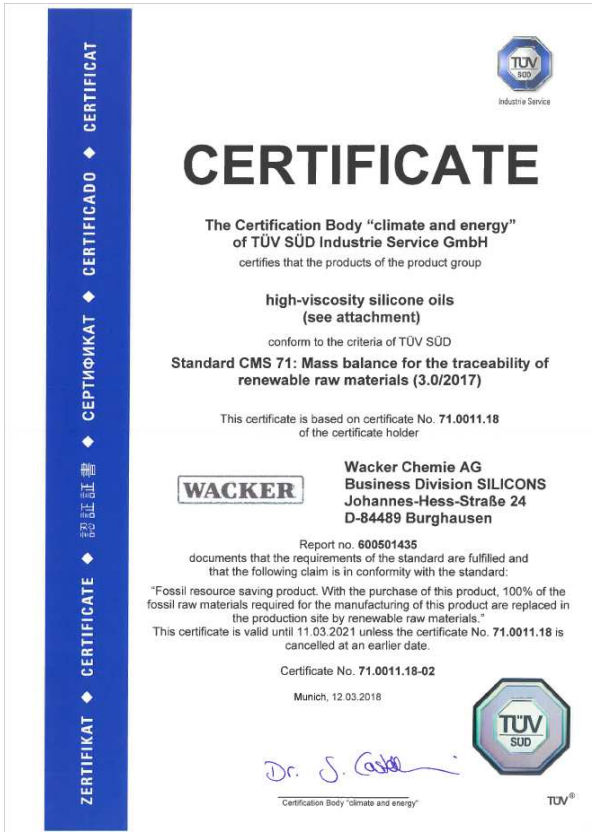
Certificate No. **71.0011.18-01**

Munich, 12.03.2018

Certification Body "climate and energy"

TÜV®

- **low-viscosity silicone oils**
- **No. 71.0011.18-01**



ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

TÜV SÜD Industrie Service

CERTIFICATE

The Certification Body "climate and energy"
of TÜV SÜD Industrie Service GmbH
certifies that the products of the product group

high-viscosity silicone oils
(see attachment)

conform to the criteria of TÜV SÜD

Standard CMS 71: Mass balance for the traceability of renewable raw materials (3.0/2017)

This certificate is based on certificate No. **71.0011.18**
of the certificate holder

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Report no. **600501435**
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Certificate No. **71.0011.18-02**

Munich, 12.03.2018

Certification Body "climate and energy"

TÜV®

- **high-viscosity silicone oils**
- **No. 71.0011.18-02**

BELSIL® eco line

Dimethicones

BELSIL® eco

DM 0.65 (Disiloxane)
DM 5 (all: Dimethicone)
DM 10
DM 20
DM 50
DM 100
DM 350
DM 1000
DM 60.000

Gum Blends

BELSIL® eco

GB 1020 (Dimethicone, Dimethiconol)

Resins

BELSIL® eco

TMS 803 (Trimethyl-siloxysilicate)

BELSIL® eco DM fluids

BELSIL® eco Dimethicones

- 1st Silicone company offering dimethicones based on bio-methanol
- *"**Fossil resource saving product**. With the purchase of this product, 100% of the fossil materials required for the manufacturing of this product are replaced in the production site by renewable raw materials."*
- mass-balance approach meets the criteria of TÜV-SÜD standard CMS 71 for the traceability of renewable raw materials
- use of bio-methanol from plant residues like sugar beets, straw, grass.
- support for product lines with focus on sustainability
- Wacker's calculation show better CO_2 balance vs. standard fluids :

  1tons of BELSIL® eco fluids saves 1,6 tons of CO_2