



SASOL

ISOCARB $C_{12}-C_{32}$

Branched acids

Sasol Chemicals



About us

Sasol Chemicals fulfills its purpose of “Innovating for a better world” by offering a broad, state-of-the-art portfolio of specialty chemicals for a wide range of applications and industries.

Our solutions, delivered through four market-facing businesses – performance solutions, essential care chemicals, advanced materials and base chemicals – are used in countless products that add value, security and comfort to our daily lives, and, increasingly, help our customers meet their sustainability goals.

With regional business platforms in the Americas, Eurasia and Southern Africa and locations in 22 countries, Sasol Chemicals collaborates with customers around the world to tackle their toughest challenges.

Contents

1. General information.....	4
2. Applications	5
3. Other products and trademarks.....	5
4. ISOCARB.....	6
5. Viscosity and density	8
6. Analytical methods	9
7. Packaging and delivery	9
8. Handling and storage	10
9. Sasol Chemicals alcohol portfolio	10
10. Registration	10

1. General information

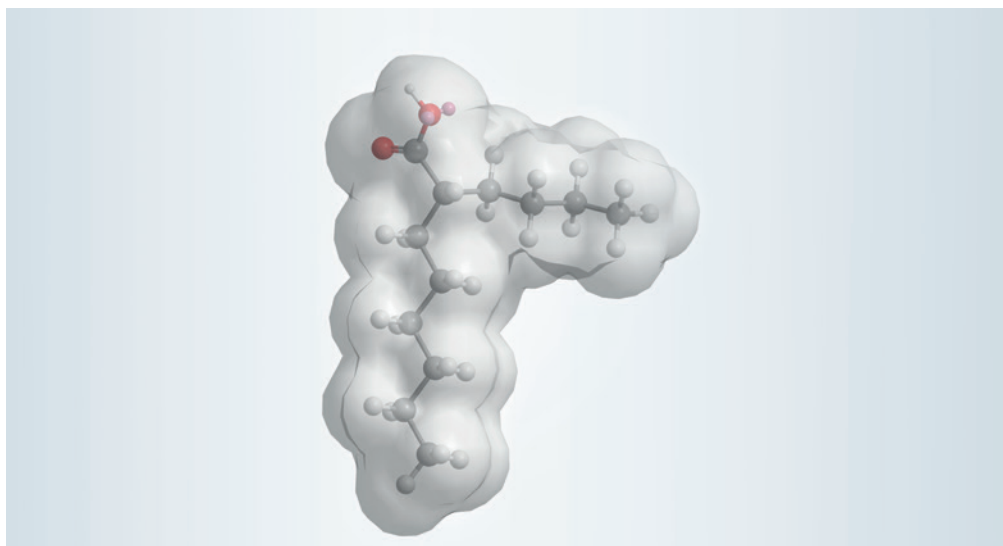
ISOCARB is the registered trademark of Sasol for primary, saturated carboxylic acids with defined branching of the carbon chain.

These products are derived from the oxidation of Guerbet alcohols. **ISOCARB** acids are available with even numbered carbon chain lengths of 12 to 32.

The **ISOCARB** acids maintain many of the beneficial properties of the parent branched alcohols.

- **ISOCARB** acids generally exhibit melting points lower than linear acids with same carbon chain lengths
- Saturation of the carbon chain results in excellent oxidation and colour stability
- **ISOCARB** acids are colourless and almost odourless
- The specific structure of **ISOCARB** acids provides unique polarity and aggregation state properties which yield advantageous solubility and solvent characteristics
- **ISOCARB** acids show anticorrosive properties when neutralised and in aqueous solution
- **ISOCARB** acids generally show excellent stability towards calcium ions when in aqueous solution

Figure 1:
ISOCARB 12 derived from
Guerbet alcohol



2. Applications

ISOCARB acids and its derivatives are used as raw materials and intermediates in many specialized applications.

- Esters
- Betaines
- Ethoxylates
- Amides

Metalworking and lubrication

- **ISOCARB** acids can be used as a corrosion inhibitor when formulating lubricating oils and greases which are applied in industrial and automotive applications
- **ISOCARB** acids can be used, neutralized, as ingredient of soluble and synthetic metal-working fluids or in water-based degreasers due to their very good anticorrosion properties

Inks, paints and poatings

3. Other products and trademarks

Based on the linear alcohols Sasol produces the following specialities:

GALENOL	Self emulsifying blends of linear alcohols
ISOFOL	Defined branched Guerbet alcohols C ₁₂ to C ₃₂
LINPLAST	Plasticizers made from alcohols
NACOL ETHER	Linear di-n-alkyl ethers C ₁₂ to C ₃₆
PARAFOL	High purity normal paraffin cuts C ₁₂ to C ₂₂

Product specific brochures are available with detailed information for **ISOFOL** alcohols, **NACOL ETHER** and **PARAFOL** pure cut paraffins.

Additional information on **GALENOL** and **LINPLAST** can be requested by contacting the local sales office listed on the back of the brochure.

4. ISOCARB

	ISOCARB 12	ISOCARB 16
Chemical name	2-butyl-octanoic acid	2-hexyl-decanoic acid
Appearance at ambient temperature	clear, colourless liquid	clear, colourless liquid

Sales specification

Purity	[wt. %]	min. 96	min. 96
Water content	[wt. %]	max. 0.1	max. 0.1
Colour	[Hazen]	max. 30	max. 40
Acid number	[mg KOH/g]	273–283	212–222

Additional properties

Ester number	[mg KOH/g]	max. 1.0	max. 1.0
Refraction index	[nD]	1.4393 (20 °C)	1.4471 (20 °C)
Molecular weight	[g/mol]	200	256
Melting range	[°C]	-13--9	16–18
Boiling range	[°C]	270–298	180–185 (10 mbar)
Flash point**	[°C]	157	170

* Pour point

** approx. data



	ISOCARB 24	ISOCARB 32
Chemical name	2-decyl-tetradecanoic acid	2-tetradecyl-octadecanoic acid
Appearance at ambient temperature	colourless, solid	colourless, solid

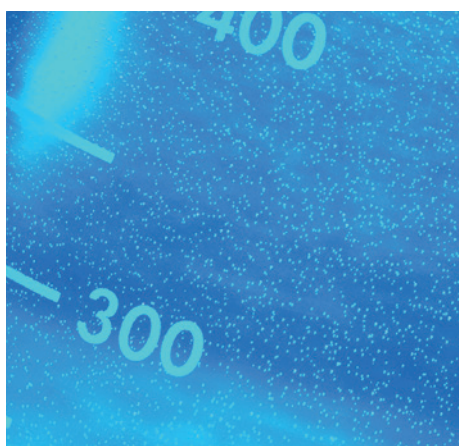
Sales specification

Purity	[wt. %]	min. 95	min. 80
Water content	[wt. %]	max. 0.1	max. 0.1
Colour	[Hazen]	max. 50	max. 400
Acid number	[mg KOH/g]	144–154	105–125

Additional properties

Ester number	[mg KOH/g]	max. 3.0	max. 3.0
Refraction index	[nD]	1.441 (60 °C)	1.437 (80 °C)
Molecular weight	[g/mol]	368	480
Melting range	[°C]	46–50	60–66
Boiling range	[°C]	235–245 (10 mbar)	> 250 (10 mbar)
Flash point**	[°C]	234	250

** approx. data



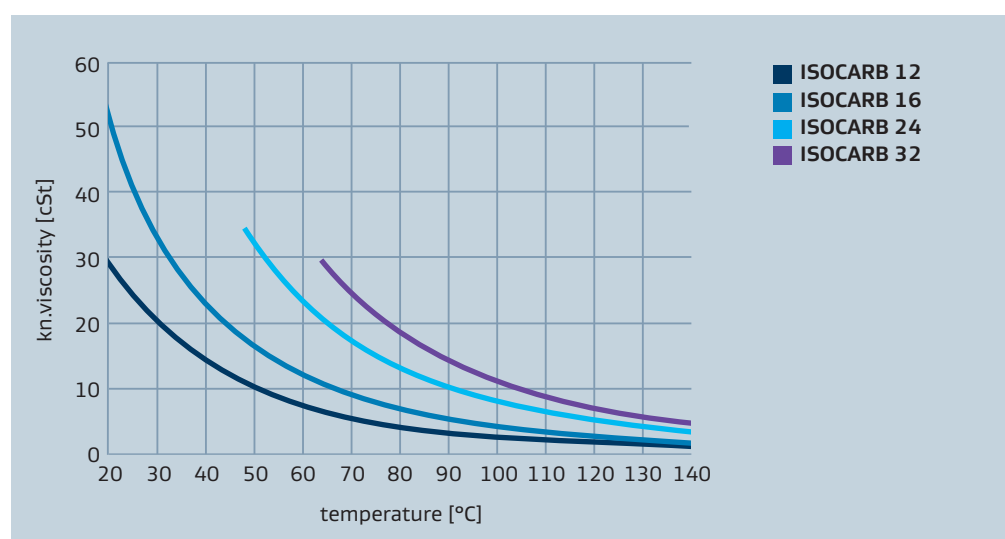
5. Viscosity and density

Viscosity is a measure of a fluid's ability to resist flow under gravity. The kinematic viscosity of a fluid is defined as the ratio of absolute or dynamic viscosity to its density.

The viscosity of a fluid is highly temperature dependant. For a liquid the kinematic viscosity will decrease with higher temperature, for a gas the kinematic viscosity will increase with higher temperature.

The temperature dependant kinematic viscosity of **ISOCARB** acids is shown in Figure 3.

Figure 3:
ISOCARB acid viscosity vs temperature

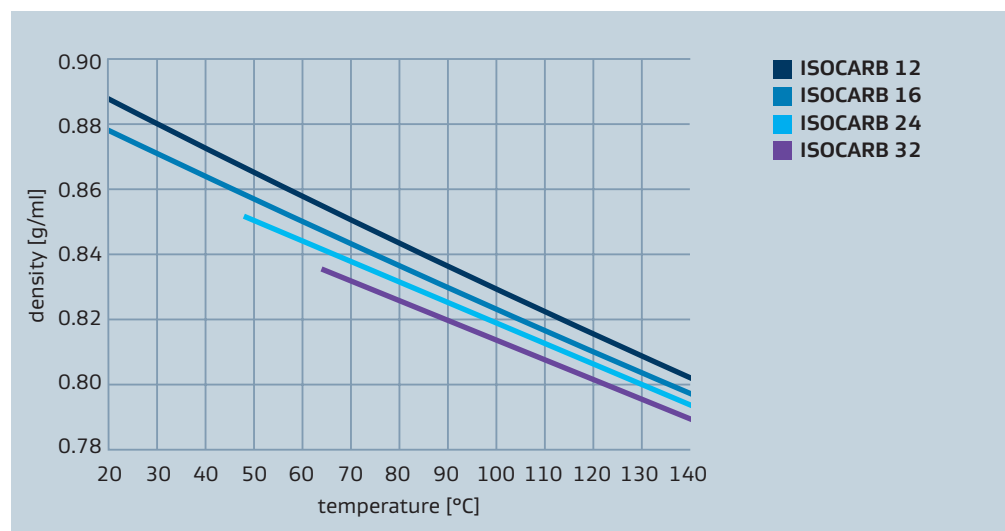


Density is a measure of how much mass is contained in a given unit volume. The formal definition of density is mass per unit volume. Usually the density is expressed in grams per mL.

In general, density can be changed by changing either the pressure or the temperature. Increasing the pressure will always increase the density of a material. Increasing the temperature generally decreases the density, but there are notable exceptions to this generalisation.

The temperature dependant density of **ISOCARB** acids is shown in Figure 4.

Figure 4:
ISOCARB acid density vs temperature



6. Analytical methods

			Sasol method	with reference to
Acid number			600-31	DIN EN 14 104
Boiling range			600-21	DIN 51 751
Colour			600-40	EN ISO 6271-2
Density			600-23	DIN EN ISO 12 185
Ester number			600-33	—
Flash point	Pensky-Martens	65 °C–165 °C	600-26 b	EN ISO 2719
	Cleveland	> 165 °C	600-26 c	ISO 2592
Melting range			600-22 c	Ph. Eur. 2.2.14
Molecular weight			600-19	—
Purity			1050 F-33	Gas chromatographic method
Refraction index			600-24	DIN 51 423
Viscosity			600-25	ASTM D 7042
Water content			600-37	DIN 51 777

7. Packaging and delivery

Filled products

- Delivery of acids with chain lengths of C₁₂ to C₃₂
- Special packaging upon request
- Disposable packaging
- Please protect against direct sunlight and environmental influence

In steel drums

- Filling quantity: 160 to 180 kg/drum (depending on product)
- Pallet capacity: 4 drums (screw-cap or screw lid drums) on a CP3 pallet secured by steel strapping
- Closed under a nitrogen blanket

8. Handling and storage

Storage temperature of **ISOCARB** acids

5 < T < 30 °C

41 < T < 86 °F

- Plant components that come into contact with the product, e.g. pumps, pipes, tank containers etc. should be made of stainless steel where possible; aluminium plant components are unsuitable; petrol resistant hose connections can be used and should be rinsed thoroughly after use.

9. Sasol Chemicals alcohol portfolio

LIAL Mixture of linear and mono-branched alcohols from C ₉ to C ₁₇	Sasol Italy S.p.A. Augusta
ALCHEM Linear alcohol mono-cuts and blends from C ₉ to C ₁₇	Sasol Italy S.p.A. Augusta
ISALCHEM Mono-branched alcohol mono-cuts and blends from C ₉ to C ₁₇	Sasol Italy S.p.A. Augusta
NACOL Pure cuts of linear alcohols C ₆ to C ₂₂	Sasol Germany GmbH Brunsbüttel
NAFOL Blends of linear alcohols C ₈ to C ₂₈	Sasol Germany GmbH Brunsbüttel
ISOFOL Defined branched Guerbet alcohols C ₁₂ to C ₃₂	Sasol Germany GmbH Brunsbüttel
SAFOL Mixture of linear and branched alcohols C ₁₂ to C ₁₃	Sasol Ltd Secunda
ALFOL Pure cuts and blends of linear Ziegler alcohols C ₆ to C ₂₂	Sasol Chemicals (USA) LLC Lake Charles

10. Registration

For registration status, please refer to the material safety data sheet or contact us at:

Sasol Chemicals
info@de.sasol.com
 Telephone +49 40 63684-1000

Our global footprint

● Sasol Chemicals business locations, e.g. offices, production sites, JVs, laboratories, etc.



Source reference

Cover: Dreamstime/Christopher Tompkins, p. 3: Sasol Germany GmbH/Malte Goy, p. 4: Sasol Germany GmbH, p. 6: Dreamstime/Piotr Rzeszutek, Dreamstime/Stanko Mravljak, p. 7: Dreamstime/Olivier Le Queinec, panthermedia/Uwe Moser

Sasol is a registered trademark of Sasol Ltd. Product trademarks displayed in this document are the property of the Sasol Group of companies, except where it is clear from the context that not. Users of this document are not permitted to use these trademarks without the prior written consent of their proprietor. All rights not expressly granted are reserved. Reference to trademarks used by other companies is neither a recommendation, nor should it give the impression that products of other companies cannot be used.

Disclaimer: The information contained in this document is based on Sasol's knowledge and experience at the time of its creation. We reserve the right to make any changes to this document or the products described therein, as a result of technological progress or developments. This information implies no liability or other legal responsibility on our part, including with regard to existing third-party patent rights. In particular, no guarantee or warranty of properties in the legal sense is implied. The customer is not exempted from the obligation to conduct careful inspection and testing of incoming products. All our business transactions are governed exclusively by our General Business Terms (<https://www.sasolgermany.de/de/agb/>).

At your service



SASOL

Sasol Chemicals

Performance Solutions

Anckelmannsplatz 1, 20537 Hamburg, Germany
info@de.sasol.com Telephone +49 40 63684-1000

Italy

sasol.italy@it.sasol.com
Telephone +39 025 8453-1

Spain / Portugal

oliver.groeger@de.sasol.com
Telephone +34 934 676 902

United Kingdom

info.uk@sasol.com
Telephone +44 1564 78 3060

Benelux

henk.verschuuren@de.sasol.com
Telephone +31 74 278 28 73

France

mariealice.tessieres@fr.sasol.com
Telephone +33 1 44 01 05 30

Poland / Baltic States

janusz.duda@pl.sasol.com
Telephone +48 22 860 6146

Slovakia

sales@sk.sasol.com
Telephone +421 2 544 30 219

North America

info@us.sasol.com
Telephone +1 281 588 3870

South America

sasollatinamerica@us.sasol.com
Telephone +55 11 4612 8199

Middle East and India

abbas.haroon@sasol.com
Telephone +97 14 8086 300

Pacific Region

jackson.ding@cn.sasol.com
Telephone +852 3971 5988

P.R. China

liangbo.lu@cn.sasol.com
Telephone +86 21 221 80 500

Japan

yoshihiro.ito@jp.sasol.com
Telephone +81 3 6263 2061

Russia

anna.kogut@de.sasol.com
Telephone +7 495 221 5142 750

www.sasol.com