MONIBAC

Isobutylaluminum dichloride

MONIBAC is a co-catalyst product soluble in aromatic and saturated cycloaliphatic hydrocarbons. Also used as a catalyst component in PE technology.

CAS number	EINECS/ELINCS No.
1888-87-5	217-563-5
TSCA status	Molecular weight
listed on inventory	155.0

Characteristics

Appearance	Liquid
Boiling point, 1 mm Hg	77 °C
Density, 25 °C	1.123 g/cm^3
Melting point	-30 °C
Solubility	Soluble in aromatic and saturated aliphatic and cycloaliphatic hydrocarbons
Stability to air	May ignite upon exposure
Stability to water	Reacts violently, may ignite upon contact
Viscosity, 25 °C	4.0 mPa.s

Composition

n-Butane	≤ 0.6 mol%
Aluminum	16.9-17.6 wt%
Cl/Al (molar)	1.95-1.99
Ethane	≤ 1.5 molar%
Hydrogen	≤ 0.4 molar%
Isobutane	≥ 97.0 molar%
Isobutylene	≤ 0.5 molar%
Methane	≤ 0.4 molar%
Other alkanes	-- molar%
Propane	≤ 0.6 molar%

Thermochemical properties

Heat of vaporization ΔHv, NBP / 1 bar	335 J/g (80 cal/g)
Specific heat, 57 °C	1.322 J/g.°C (0.316 cal/g.°C)
Heat of formation ΔHf°, 25 °C / 1 bar	-297 kJ/mole (-71 kcal/mole)
Heat of combustion ΔHc°, 25 °C	-3477 kJ/mole (-832 kcal/mole)

Notes:

[a] Calculated from gas chromatographic analysis of hydrocarbons and hydrogen obtained by hydrolysis. [b] Determined by titration of aqueous hydrolyzate. [c] NBP = Normal Boiling Point

Applications

MONIBAC is used as a raw material for production of Ziegler-Natta catalysts.

Storage

MONIBAC and its solutions are stable when stored under a dry, inert atmosphere and away from heat. MONIBAC slowly decomposes at temperatures above ~ 165°C.

Packaging and transport

MONIBAC and its solutions are available worldwide in cylinders and portable tanks. In North America only, MONIBAC is also available in tank trailers and rail cars. Containers are fabricated from carbon steel and are equipped with dip tubes for top discharge and all connections are located in the vapor space. Both packaging and transport meet the international regulations.

Safety and handling

MONIBAC may ignite upon exposure to air and reacts violently with water. Hydrocarbon solutions of MONIBAC may also ignite upon exposure to air. MONIBAC and its solutions must be handled under a dry, inert atmosphere, e. g. nitrogen or argon. Water must be scrupulously removed from process equipment prior to putting it into metal alkyls service. Failure to do so may result in an explosion. Products of complete combustion of MONIBAC and its solutions are aluminum oxide, carbon dioxide, hydrogen chloride and water. MONIBAC causes severe burns to the skin and eyes. It is imperative that proper personal protective equipment be worn when handling MONIBAC. Please refer to the Safety Data Sheet (SDS) for further information on the safe storage, use and handling of MONIBAC. This information should be thoroughly reviewed prior to acceptance of this product. The SDS is available at nouryon.com/sds-search.

Additional information

Availability: MONIBAC is available as the neat pyrophoric liquid and as pyrophoric and nonpyrophoric solutions in a variety of hydrocarbon solvents. Consult your Nouryon representative for further information.

Contact Us

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