

DuPont™ Zonyl® BA

PERFLUOROALKYL -1-ETHANOL (C6-C18)



DuPont™ Zonyl® BA is a fluorinated alcohol useful for surfactants, repellent, lubricants, and other high performance fluorinated products. Zonyl® BA is part of a large family of fluorinated specialty monomers offered by DuPont. For information on other Zonyl® monomers, contact us or visit our website at www.zonyl.dupont.com

Specifications

Property	Limit, wt%
2-Perfluoroalkyl ethanols, total	92.0 min.
2-Perfluorobutyl ethanol	2.0 max.
2-Perfluorohexyl ethanol	28.0–36.0
2-Perfluorooctyl ethanol	26.0–33.0
2-Perfluorodecyl ethanol	16.0–21.0
Other 2-Perfluoroalkyl ethanols	12.0–19.0
Perfluoroalkyl ethyl iodides	3.0 max.
Water	0.05 max.

Appearance: pale to medium tan waxy solid at room temperature

Uses

Zonyl® BA is a valuable monomer for products requiring low surface energy, chemical stability, and increased surface lubricity. Zonyl® BA is an effective nucleophile for the synthesis of esters, ethers, phosphates, ethoxylates, urethanes, and siloxanes. In addition to Zonyl® BA, DuPont offers the related products Zonyl® BA-N, BA-L and BA-LD. These differ slightly in composition and solubility. Below is a partial list of applications for Zonyl® BA fluoroalcohol.

- Liquid Crystals derived from naphthalene esters (JP3830185), polyimides (JP08208836), azo-type dichroic dyes (JP07278551), or benzoate esters (JP06172266).
- Cosmetic additives including phosphate esters (US6747116, US5344930, US5004825), fluoropolyethers (JP2001048771), or fatty acid esters (JP07138145) for skin care.
- Surfactants including phosphates (JP2003286290, WO9221688) and quaternary amines (JP2003238500), and advanced applications including supercritical CO₂ (WO2000035998).
- Medical applications including contrast agent formulations containing paramagnetic and diamagnetic perfluoroalkyl compounds for magnetic resonance tomography (US2006093554) and pharmaceutical agents in tumor therapy and interventional radiology (WO9730969).
- Lubricants for magnetic recording surface using perfluoropolyether lubricants (JP2006190393), partially fluorinated diesters (US6989356), and amine polyesters (JP2003277336).
- Fluorosiloxanes for antiglare and repellent films (JP3728752, US5621042), for antiblock and antifoaming agents (US5834613), as surface modifiers for resins and rubber (JP3598552), and for skin care and sunscreens (JP06234858).
- Fluorinated urethanes providing repellency and stain resistance for leather (JP2005336637), anti-block coatings for air bags (JP2002265863), and nonstick metal coatings (JP2628371).
- Fatty acid esters as waxes for skis (US5131674), fluorinated photoinitiators for polymerization (WO2003066693), ester-ureas as organic gellation agents (JP2006096821), resins for optics applications (US2005282996), and both internal and external mold release agents (JP20042772980, JP03091566).



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Typical Physical Properties*

Property	Value
CAS Name	Alkyl Alcohols, 1,1,2,2-tetrahydroperfluoro-1-alkanols (C6-C18)
Other Name	Zonyl® BA
Formula	F-(CF ₂ CF ₂) _n -CH ₂ CH ₂ H
Molecular weight	464
Form	Solid
Color	Pale to medium tan
Solubility in Water, wt%	0
Solubility in Acetone, wt%	10–50
Solubility in Methyl Ethyl Ketone, wt%	10–50
Solubility in Trichloroethylene, wt%	1–10
Solubility in Isobutyl Alcohol, wt%	10–50
Odor	Waxy
Boiling Point, °C (°F)	145–245 (293–473)
Melting Point, °C (°F)	55–65 (131–149)
Fluorine, %	70.8
Specific Gravity	1.6 at 90°C
Thickening Point, °C	65–70
Viscosity, cP (°C)	7 (80)
Flash Point	Self extinguishing

* This table gives typical properties (not specifications) based on historical production performance. DuPont does not make any express or implied warranty that this product will continue to have these typical properties.

Handling

DuPont™ Zonyl® BA is a skin and eye irritant. Care should be taken to avoid exposure by wearing appropriate gloves, safety glasses, and other protective equipment as needed. Refer to the MSDS for further handling information.

Packaging and Shipping Information

Zonyl® BA is not regulated by DOT, IMO or IATA. It is available in net 181.6 kg (400 lb) steel drums, 22.7 kg (50 lb) steel pails, and 3.63 kg (8 lb) cans.

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