

Octyl alcohol F

Oxo alcohols

Trade name:	Octyl alcohol F
Chemical name:	Distillation residue, by-products from the production of 2-ethylhexan-1-ol.
CN:	3824 90 97
CAS:	68609-68-7

Properties

Octyl alcohol F is a liquid whose colour varies from yellow, through brown-yellow to greenish, with a characteristic odour.

Product classification

Octyl alcohol F is not classified as a hazardous material according to RID/ADR.

Use

Octyl alcohol F is used as a flotation agent.

Physical and chemical properties

Parameter	Business unit	Value	Test methods
2-ethylhexanol, not more than	% m/m	30	ZAK's internal rmethod
High-molecular compounds >C8, not less than	% m/m	70	ZAK's internal rmethod

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Manufacturer:
Grupa Azoty
Zakłady Azotowe Kędzierzyn S.A.

Isobutyraldehyde

Trade name:	Isobutyraldehyde
Chemical name:	2-methylpropanal, isobutyraldehyde, isobutanal
CN:	2912 19 00
CAS:	78-84-2
Chemical formula:	$(\text{CH}_3)_2\text{CHCHO}$

Properties

Isobutyraldehyde is a transparent, colourless liquid with a characteristic odour.

Product classification

Isobutyraldehyde is classified as a hazardous material according to RID/ADR.

- RID Kl. 3, packing group II
- ADR Kl. 3, packing group II

Use

Isobutyraldehyde is used as a raw material for producing alcohols, acids, amines, and esters. It is used in processes of manufacturing plasticizers, pharmaceutical products, plant protection agents, synthetic resins, fragrances, solvents and all sorts of additives used in many branches of industry (antioxidants, wetting agents, perfume ingredients, improvers).

Physical and chemical properties

Parameter	Business unit	Value	Test methods
Colour, not more than	Pt-Co	15	ISO 6271
Acid number, not more than	mg KOH/g	2	ZAK's internal rmethod
N-butyraldehyde, not more than	% m/m	0,2*	ZAK's internal rmethod
Water, not more than	% m/m	1,5	ISO 760
Isobutyraldehyde, not less than	% m/m	99,5*	ZAK's internal rmethod

* the values do not take into account water content in the product

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Manufacturer:
Grupa Azoty
Zakłady Azotowe Kędzierzyn S.A.

N-butyraldehyde

Trade name:	N-butyraldehyde
Chemical name:	N-butyraldehyde, n-butanal
CN:	2912 19 00
CAS:	123-72-8
Chemical formula:	$\text{CH}_3(\text{CH}_2)_2\text{CHO}$

Properties

N-butyraldehyde is a transparent, colourless liquid with a characteristic odour.

Product classification

N-butyraldehyde is classified as a hazardous material according to RID/ADR.

- RID Class 3, packing group II
- ADR Class 3, packing group II

Use

N-butyraldehyde is used as a raw material for producing alcohols (mono- and polyalcohols), acids, amines, and esters. It is used in processes of manufacturing plasticizers, pharmaceutical products, plant protection agents, synthetic resins, fragrances, solvents and all sorts of additives used in many branches of industry (fillers, wetting agents, anti-foaming agents, improvers).

Physical and chemical properties

Parameter	Business unit	Value	Test methods
Colour, not more than	Pt-Co	15	ISO 6271
Acid number, not more than	mg KOH/g	1	ZAK's internal rmethod
N-butyraldehyde, not more than	% m/m	0,1	ZAK's internal rmethod
Water, not more than	% m/m	0,2	ISO 760
N-butyraldehyde, not less than	% m/m	99,5	ZAK's internal rmethod

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Manufacturer:
Grupa Azoty
Zakłady Azotowe Kędzierzyn S.A.

2-ethylhexanol

Oxo alcohols

Trade name:	2-ethylhexanol, 2-EH
Chemical name:	2-ethylhexanol, 2-ethylhexane-1-ol
CN:	2905 16 85
CAS:	104-76-7
Chemical formula:	$\text{CH}_3(\text{CH}_2)_3\text{CH}(\text{C}_2\text{H}_5)\text{CH}_2\text{OH}$

Properties

2-ethylhexanol is a transparent, colourless liquid with a characteristic odour.

Product classification

2-ethylhexanol is not classified as a hazardous material according to RID/ADR.

Use

2-ethylhexanol is used for producing: low-volatile esters used as plasticizers for plastic materials, additives improving thermal stability and resistance to oxidation of plastic materials, surfactants, anti-foaming agents using in the textile and paper industries, solutions used in extraction processes, brake fluids, fuel additives (2-ethylhexyl nitrate), 2-ethylhexyl acrylate and ethoxides of auxiliary agents for agriculture produced on the basis of ethylene oxide, compounds used in flame retardant mixtures (bromo derivatives), cosmetics and pharmaceutical products.

Physical and chemical properties

Parameter	Business unit	Value	Test methods
2-ethylhexanol, not less than	% m/m	99.7	ZAK's internal rmethod
Colour, degrees on the Pt-Co scale, not more than	APHA	5	ISO 6271
Density at 20°C, within the limits of	g/cm ³	0,832-0,834	Areometric method
Acids expressed as acetic acid, not more than	% m/m	0,01	ASTM D 1613
Aldehydes expressed as 2-ethylhexanol, not more than	% m/m	0,05	BS 4583
Water, not more than	% m/m	0,05	ISO 12937:2000

Parameters guaranteed by the manufacturer indicated in the case of a complaint.

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Manufacturer:
Grupa Azoty
Zakłady Azotowe Kędzierzyn S.A.

Isobutanol

Oxo alcohols

Trade name:	Isobutanol
Chemical name:	2-methylpropan-1-ol, isobutanol, isobutyl alcohol
CN:	2905 14 90
CAS:	78-83-1
Chemical formula:	$\text{CH}_3\text{CH}(\text{CH}_3)\text{CH}_2\text{OH}$

Properties

Isobutanol is a transparent, colourless liquid with a characteristic odour.

Product classification

Isobutanol is classified as a hazardous material according to RID/ADR.

- RID Class 3, packing group III
- ADR Class 3, packing group III

Use

Isobutanol is used for producing: esters (used as solvents and fragrances), paints and varnishes (solvent, agent preventing blushing, improving fluidity and reducing viscosity of water-soluble paints), additives for plastics (plasticizers), melamine and urea-formaldehyde resins (as solvent or butylating agent), auxiliary agents for agriculture (butylamines), flotation additives, and ethers of ethylene and propylene glycols.

Physical and chemical properties

Parameter	Business unit	Value	Test methods
Isobutanol, not less than	% m/m	99.8	ZAK's internal rmethod
Colour, degrees on the Pt-Co scale, not more than	APHA	5	ISO 6271
Density at 20°C*, within the limits of	g/cm ³	0,802-0,804	Areometric method
Acids express as acetic acid*, not more than	% m/m	0,003	ASTM D 1613
Aldehydes expressed as butyraldehyde*, not more than	% m/m	0,05	BS 4583
Water, not more than	% m/m	0,1	ISO 12937:2000

* Parameters guaranteed by the manufacturer indicated in the case of a complaint.

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Manufacturer:
Grupa Azoty
Zakłady Azotowe Kędzierzyn S.A.

n-butanol

Oxo alcohols

Trade name:	n-butanol
Chemical name:	n-butanol, butan-1-ol, n-butyl alcohol
CN:	2905 13 00
CAS:	71-36-3
Chemical formula:	CH ₃ CH ₂ CH ₂ CH ₂ OH

Properties

N-butanol is a transparent, colourless liquid with a characteristic odour.

Product classification

N-butanol is classified as a hazardous material according to RID/ADR.

- RID Class 3, packing group III
- ADR Class 3, packing group III

Use

N-butanol is used for producing: esters (used as solvents and fragrances), paints and varnishes (solvent, agent preventing blushing, improving fluidity and reducing viscosity of water-soluble paints), additives for plastics (plasticizers), melamine and urea-formaldehyde resins (as solvent or butylating agent), auxiliary agents for agriculture (butylamines), flotation agents, and ethers of ethylene and propylene glycols.

Physical and chemical properties

Parameter	Business unit	Value	Test methods
n-butanol, not less than	% m/m	99.8	ZAK's internal rmethod
Colour, degrees on the Pt-Co scale, not more than	APHA	5	ISO 6271
Density at 20°C*, within the limits of	g/cm ³	0,810-0,812	Areometric method
Acids expressed as acetic acid*, not more than	% m/m	0,005	ASTM D 1613
Aldehydes expressed as butyraldehyde*, not more than	% m/m	0,05	BS 4583
Water, not more than	% m/m	0,05	ISO 12937:2000

* Parameters guaranteed by the manufacturer indicated in the case of a complaint.

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Manufacturer:
Grupa Azoty
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Oxoplast® IB

Plasticizers

Trade name:	Oxoplast® IB
Chemical name:	diisobutyl phthalate, DIBP
CN:	2917 34 00
CAS:	84-69-5
Chemical formula:	$C_6H_4(COOC_4H_9)_2$

Properties

Oxoplast® IB is an oily, colourless liquid.

Product classification

Oxoplast® IB is classified as a hazardous material according to RID/ADR.

- RID Class 9, packing group III
- ADR Class 9, packing group III

Use

OXOPLAST® IB is used mainly as a polyvinyl chloride softening agent. Used for manufacturing flexible lining, paints and varnishes, adhesives, curing agents for polyester resins, polyvinyl acetate dispersions and nitrocellulose products.

Physical and chemical properties

Parameter	Business unit	Value	Test methods
Colour, degrees on the Pt-Co scale, not more than	°Hz	30	ISO 6271-1
Flash point, not less than	°C	170	ISO 2592
Esters expressed as diisobutyl phthalate, not less than	% m/m	99,5	ISO 1385/V
Density at 20°C, within the limits of	g/cm ³	1,037-1,041	Areometric method
Free acids expressed as phthalic acid, not more than	% m/m	0,01	ISO 1385/IV
Refractive index, within the limits of	n ²⁰ D	1,488-1,492	ISO 1385/I
Water content, not more than	% m/m	0,1	ISO 760

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Manufacturer:
Grupa Azoty
Zakłady Azotowe Kędzierzyn S.A.

Oxoplast® O

Plasticizers

Trade name:	Oxoplast® O
Chemical name:	bis(2-ethylhexyl) phthalate, DEHP
CN:	2917 32 00
CAS:	117-81-7
Chemical formula:	$C_{26}H_{44}(COOC_8H_{17})_2$

Properties

Oxoplast® O is an oily, colourless liquid.

Product classification

Oxoplast® O is not classified as a hazardous material according to RID/ADR.

Use

OXOPLAST® O is used in plastic material processing as a plasticizer and in the paint and varnish industry.

Physical and chemical properties

Parameter	Business unit	Value	Test methods
Colour, degrees on the Pt-Co scale, not more than	°Hz	30	DIN ISO 6271
Flash point, not less than	°C	206	ISO 2592
Volatile substances (150°C / 2h), not more than	% m/m	0,4	ZAK's internal rmethod
Esters expressed as bis(2-ethylhexyl) phthalate, not less than	% m/m	99,5	ISO 1385/V
Bis(2-ethylhexyl) phthalate, not less than	% m/m	99,5	ZAK's internal rmethod
Density at 20°C, within the limits of	g/cm ³	0,983-0,986	Areometric method
Free acids expressed as phthalic acid, not more than	% m/m	0,01	ISO 1385/IV
Water, not more than	% m/m	0,1	ISO 760

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Manufacturer:
Grupa Azoty
Zakłady Azotowe Kędzierzyn S.A.

Oxoplast® OT

Plasticizers

Trade name:	Oxoplast® OT
Chemical name:	bis(2-ethylhexyl) terephthalate, DEHT
CN:	2917 39 95
CAS:	6422-86-2
Chemical formula:	$C_{26}H_{44}(COOC_8H_{17})_2$

Properties

Oxoplast® OT is an oily, colourless or light straw-coloured liquid, with no mechanical impurities.

Product classification

Oxoplast® OT is not classified as a hazardous material according to RID/ADR.

Use

Oxoplast® OT is used in plastic material processing as a plasticizer and in the paint and varnish industry.

Physical and chemical properties

Parameter	Business unit	Value	Test methods
Colour, degrees on the Pt-Co scale, not more than	°Hz	20	DIN ISO 6271
Flash point, not less than	°C	230	ISO 2592
Volatile substances (150°C / 2h), not more than	% m/m	0,2	ZAK's internal rmethod
Esters expressed as bis(2-ethylhexyl) terephthalate, not less than	% m/m	99,5	ISO 1385/V
Bis(2-ethylhexyl) terephthalate, not less than	% m/m	98,0	ZAK's internal rmethod
Density at 20°C, not less than / not more than	g/cm ³	0,980-0,985	Areometric method
Free acids expressed as phthalic acid, not more than	% m/m	0,01	ISO 1385/IV
Water, not more than	% m/m	0,1	ISO 760

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Manufacturer:
Grupa Azoty
Zakłady Azotowe Kędzierzyn S.A.

Oxoplast[®] PH

Plasticizers

Trade name:	Oxoplast [®] PH
Chemical name:	Bis(2-propylheptyl) phthalate, DPHP
CN:	2917 33 00
CAS:	53306-54-0
Chemical formula:	$C_{6}H_{4}(COOC_{10}H_{21})_{2}$

Properties

Oxoplast[®] PH is an oily, colourless or light straw-coloured liquid, with no mechanical impurities.

Product classification

Oxoplast[®] PH is not classified as a hazardous material according to RID/ADR.

Use

OXOPLAST[®] PH is used in plastic material processing as a plasticizer and in the paint and varnish industry.

Physical and chemical properties

Parameter	Business unit	Value	Test methods
Colour, degrees on the Pt-Co scale, not more than	°Hz	30	DIN ISO 6271
Flash point, not less than	°C	220	ISO 2592
Volatile substances (150°C / 2h), not more than	% m/m	0,4	ZAK's internal rmethod
Esters expressed as bis(2-propylheptyl) phthalate, not less than	% m/m	99,5	ISO 1385/V
Density at 20°C, within the limits of	g/cm ³	0,960-0,965	Areometric method
Free acids expressed as phthalic acid, not more than	% m/m	0,01	ISO 1385/IV
Water, not more than	% m/m	0,1	ISO 760

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Manufacturer:
Grupa Azoty
Zakłady Azotowe Kędzierzyn S.A.

Maleic anhydride

Trade name:	Maleic anhydride
Chemical name:	maleic anhydride, furan-2,5-dione
CN:	2917 14 00
CAS:	108-31-6
Chemical formula:	$(\text{CH}=\text{CH})(\text{CO})_2\text{O}$

Properties

Maleic anhydride has the form of white irregular granules or flakes; after melting it becomes a colourless, clear liquid.

Product classification

Maleic anhydride is classified as a hazardous material according to RID/ADR.

- RID Class 8, packing group III
- ADR Class 8, packing group III

Use

Maleic anhydride is used for producing: large volume chemicals, plastic materials, alkyl resins, softening agents, fragrances, fungicides and dyes for laboratories. It is also used as a monomer in polymerization reactions, in the paints and varnishes industry.

Physical and chemical properties

Parameter	Business unit	Value	Test methods
Maleic anhydride, not less than	% m/m	99.5	ISO 1390-4
Colour, degrees on the Pt-Co scale, not more than	APHA	20	ISO 1390-2
Freezing point, not less than	C	52,0	ISO 1392
Ash, not more than	% m/m	0.002	ISO 1390-5
Iron, not more than	% m/m	0.0001	ISO 1390-6
Maleic acid, not more than	% m/m	0,5	ISO 1390-3

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Manufacturer:
Grupa Azoty
Zakłady Azotowe Kędzierzyn S.A.