DOMO

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is our formula

α-Methylstyrene – universal

DOMO Chemicals produces α-methylstyrene (AMS) as a by-product of our Hock's phenol synthesis (oxidation of cumene to cumene hydroperoxide (CHP) followed by a separation of CHP into phenol and acetone) in order produce phenol on an industrial scale for further processing into caprolactam.

Properties	Units	Limits	Methods
Specification			
α-Methylstryrene (without water)	% w/w	min. 99.5	DOMO 81-109 (GC)
Colour	Hazen/APHA	max. 10	DIN EN ISO 6271
Cumene	% w/w	max. 0.3	DOMO 81-109 (GC)
Acetophenon	mg/kg	max. 500	DOMO 81-109 (GC)
Inhibitor Content	mg/kg	10 - 20	ASTM D 4590-86
Polymerentest	mg/kg	clear, corresponds to ≤ 10 mg/kg	ASTM D 2121 Meth. B

All properties are reported with each delivery.

Sales unit			
	Bulk single tank trucks		
	Bulk railcars		

General properties

Chemical Characterisation: 2-Phenylpropen; 2-Phenyl-1-propen; Isopropenylbenzol; beta-Phenylpropylen	
CAS-Number	98-83-9
EINECS-Number	202-705-0
RTECS-Number	WL5075300
EU-Number	601-027-00-6
REACH-registration number	01-2119472426-35-0002
Inhibitor	0-15 mg/kg tert. Butylbrenzcatechin (TBK)

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Properties and logistics: α-methylstyrene is a combustible, colourless liquid which is not easily soluble and has an unpleasant odour. In the air, AMS can form explosive mixtures. Upon lowering of the temperature or in the presence of strong acids even at room temperature, the substance tends to polymerise – as a result, the formation of high-molecular poly-α-methylstyrene is possible. When stored in mild steel, at a temperature of ≤ 35 °C, α-methylstyrene is storage stable for one year.

General properties

Appearance	
Physical state	liquid
Colour	colourless
Odour	aromatic, unpleasant
Odour threshold	0.4 mg/ml (0,082 ppm)

General properties	Unit	Value	Methods	Remark
Chemical properties				
Density	g/ml	0,91		at 20 °C
Water solubility	g/l	0.1	DIN 51777, Part 1	at 25 °C
Dyn. Viscosity	mPa*s	0.94		at 200 °C
Physical properties				
Boiling point/range	°C	165		
Flash point/range	°C	40		
Melting point/rabge	°C	-23,2		
Explosion limits – lower (LEL)	vol%	0.9		
Explosion limits – upper (UEL)	vol%	6,6		

Applications: α-methylstyrene is used for the production and processing of ABS plastics in the electrical and automotive industry. In this process, AMS, e.g., increases heat resistance. These plastics are often part of the housing of household/electrical appliances and computers and of various car parts, such as interior trims, hubcaps and battery housings. At high temperatures from 220°C, the ABS plastics can be moulded using an extruder; therefore, they are a common material for 3D printers. AMS is also used for the production of adhesives, plasticisers and lubricating oils.