

# Technical Data Sheet

## Trimethylamine Anhydrous (TMA)

### Chemical Synonym

N,N-Dimethylmethanamine; Methylamine, N,N-dimethyl-; Methanamine, N,N-dimethyl-; TMA

### Applications

- Intermediates

### Product Description

Trimethylamine Anhydrous (TMA) is a versatile building block that is used in a limited number of applications. We produce a number of TMA derivatives like choline chloride and chlormequat chloride.

For other applications we sell the TMA in the free market. TMA is used as raw material for choline based pharmaceuticals, surfactants and solvents, cationic starches, phase transfer catalysts, ion-exchange resins, nutraceuticals,...

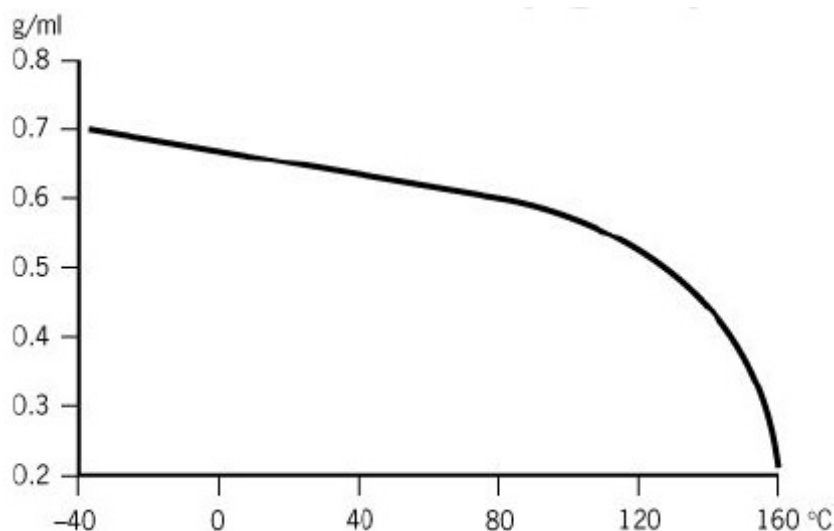
TMA is available in 2 forms :

- as anhydrous liquified gas, TMA 100%
- as aqueous solution, TMA 25, 30 and 40%

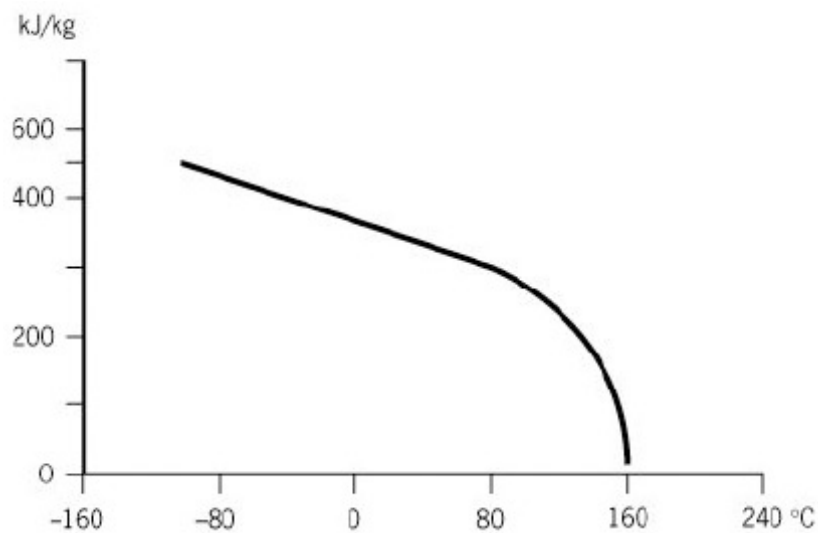
We operate our own container fleet for TMA 100%, to guarantee a high quality service.

### Characteristics:

Density of anhydrous trimethylamine in the liquid state, as a function of temperature:

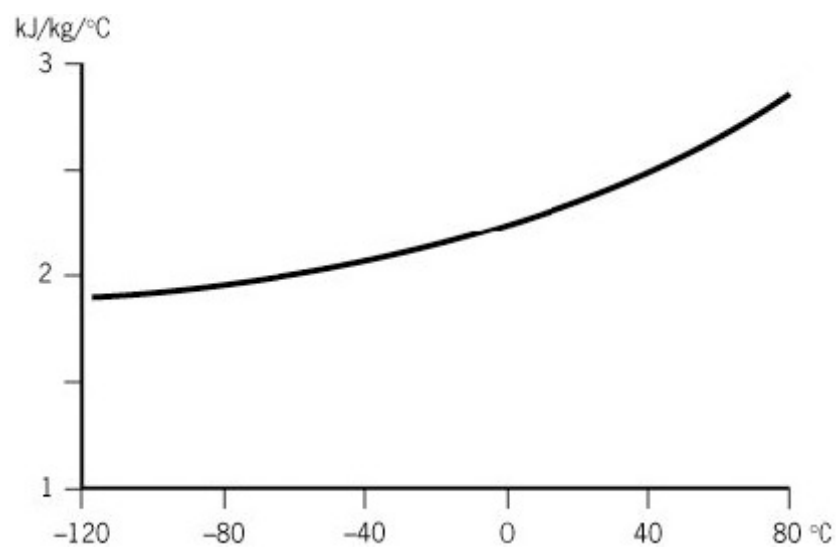


Heat of vaporization of anhydrous trimethylamine, as a function of temperature:

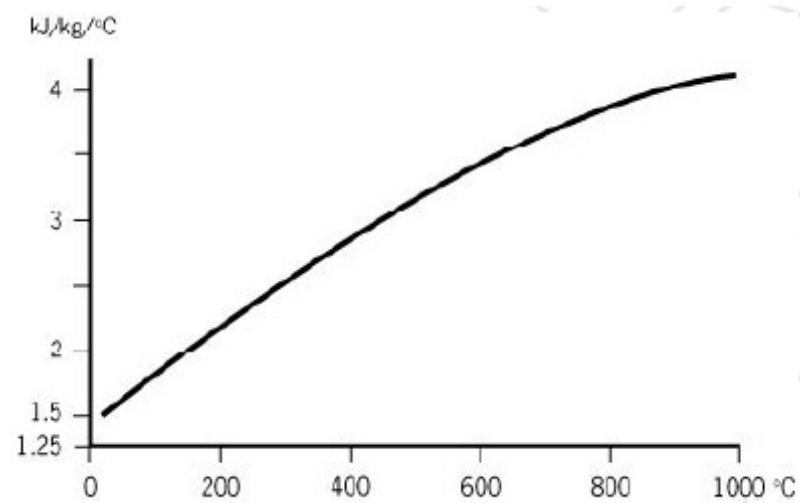


Specific heat of anhydrous trimethylamine, as a function of temperature:

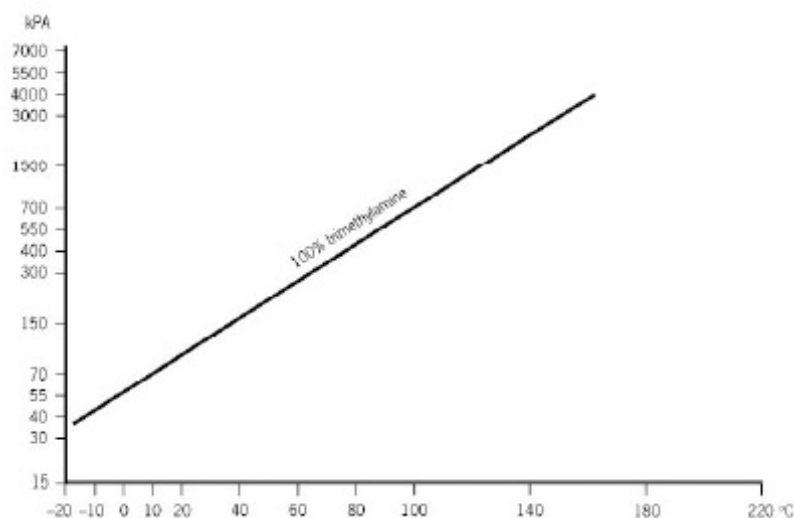
a. in the vapour state:



b. in the liquid state:



Vapour pressure of anhydrous trimethylamine, as a function of temperature:



## Typical Properties

Property	Typical Value, Units
<b>General</b>	
Molecular Formula	C <sub>3</sub> H <sub>9</sub> N
Molecular Weight	59.11 g/mol
Boiling Point	2.9-3.5 °C (37.2-38.3 °F)
Density	
@ 20°C	0.63-0.67 g/cm <sup>3</sup>
Heat of Vaporization	
@ 25°C	366.4 kJ/kg
Specific Heat	
Gas (25°C)	1.54 kJ/kg·K
Liquid (25°C)	2.29 kJ/kg·K
Vapor Pressure	
@ 20°C (68°F)	1909 hPa

## Packaging

- Bulk Containers (2T – 14T – 22T)
- Bulk Railcars (20T – 35T – 50T)

\* Packaging in function of transport regulations of the destination country.

## Storage

Trimethylamine is an extremely flammable product which should be stored in a well-ventilated area protected from fire risks (earthed tanks, no smoking, etc).

Delivery from containers and tankers should comply with our procedures which are available on request from our plant.

Both the gaseous product and the solutions are hazardous material. At a high airborne concentration the odour of ammonia predominates and trimethyl-amine acts as an asphyxiating gas.

At lower concentrations trimethylamine induces severe irritation and damage to the eyes and respiratory tract; skin contact causes burns.

The slightest leak is evident from the characteristic fishy odour, which is detectable at < 100 ppb by volume.

The storage area must be equipped with safety showers and eye baths whose locations should be familiar to the operators.

It is especially recommended that residues be burnt in an incinerator at > 800°C.

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