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Hexamethylenetetramine

Technical Data Sheet

01.01.2024

Composition:

Technical hexamine is obtained by gas-phase and (or) liquid-phase condensation of formaldehyde with ammonia.

Hexamine of the ST grade is obtained by mixing polydisperse hexamine with a stabilizer, aerosil or other stabilizing additives are used as these stabilizers.

Hexamine of the MK grade is obtained from hexamine of the ST grade by grinding to particles of the required size.

Available grades:

- C Type
- CT Type (SiO₂)
- MK Type (SiO₂)

Synonyms:

Hexamine, methenamin, urotropine

CAS no:

100-97-0

EC no:

202-905-8

REACH registration number:

01-2119474895-20-0001

Chemical formula:

C₆H₁₂N₄

Production:

There are two plants at Metafrax. The old plant was put into operation in 1980 based on the home-produced process. The new plant started up in 2011 under the process of a German company «JOSEF MEISSNER».

PHYSICAL AND CHEMICAL PROPERTIES

Parameter	C Type	CT Type (SiO ₂)	MK Type (SiO ₂)
Appearance	White crystalline caking powder	White poorly caking powder	White fine crystalline caking powder
Amines mass fraction, %, not less	99.5	96.5	96.5
Water mass fraction, %, not more		0.5	
Residue after ignition, not more	0.01	0.5-3.0	
Stabilizer content	-	0.5-3.0	
Residue on sieve with mesh size 0.1 mm, %, not more	-	-	1

Notes: According to the customer's request some parameters can be changed

Applications

- Plastics industry
- Tyre manufacturing and rubberware
- Fertilizers
- Metal fabrication
- Fuel pellets manufacturing
- Analytical chemistry

Data on Product

- Reference parameters:
 - Melting temperature: 280 °C
 - Boiling temperature: 230 °C subliming
 - Density at 20°C: 1,33 g/cm³
 - Water solubility at 12°C: 813 g/l
 - Water solution pH (5-40%): 8 - 9,5
- Hexamine has weak main properties, cakes under the conditions of higher humidity
- Flammable substance. Combustible. Dust is fire-hazardous. Easily inflame from sparks and flame. Dust with air can form explosive mixtures. Ignition temperature is 210°C, self-ignition temperature is 410°C
- Low-toxicity substance. Allergen. Irritates sharply when contacting skin
- More detailed information on safe handling of the chemical product is available in the Safety Data Sheet

Package (C Type)

- Polypropylene bags with polyethylene inner liner (25 kg)



- Multilayer moisture proof paper bags (25 kg)



Package (Type CT)

- Polypropylene bags with polyethylene inner liner (25 kg)



- Multilayer moisture proof paper bags (25 kg)



- Big bags (500–1000 kg FIBC)



Package (MK Type)

Multilayer moisture proof paper bags (25 kg)



All above mentioned packaging can be fitted on pallets (1000*1200 mm, 1 ton per pallet, 20 pallets per 20' container)

Applied means of transportation

Hexamine is transported by all means of roofed transport (20' and 40' containers, tented trucks and covered railcars).

Classification of hazardous cargo: (acc. to UN recommendations for hazardous cargo transportation)

UN number 1328

Conditions and duration of safe storage

Keep away from ignition sources, sparks, open flame. Do not smoke. Use gloves. Use explosion-proof equipment and lighting. Keep away from static electricity. Avoid dust inhalation. Do not take dirty working clothes away from a workplace. Extinguish with sprayed water with penetrating agents, aerosol compositions. Upon contact with skin rinse with a lot of water and soap. In case of irritation or reddening seek medical help