

ACRYLONITRILE TDS

Normative-technical document		
Ts 00203849 –09:2015		
Chemical formula		
C ₃ H ₃ N		
CAS number		
107-13-1		
Synonyms		
Acrylonitrile, cyanic vinyl, NAA		
Codes:		
HSDSCS		2926100000
HS CODE		29261000
CLASSES OF TRANSPORT RATES		732173
UN #		1093
Field of Application		
<p>Acrylonitrile is widely applied as a raw materials in production of high-molecular connections:</p> <ul style="list-style-type: none"> • when receiving Acrylonitrilic fibers; • when receiving various plastics - copolymers of Acrylonitrile (ABS-plastic, butadien-nitrile rubber, copolymers with vinylchlorides, DIGNITY styrene - plastic); • as intermediate connection at development acrylamide, methyl acrylate, cyanicethylcellulose, glutamine acid, adiponitrile; • in small amounts of Acrylonitrile is used as a fumigant 		
MAIN CHARACTERISTICS OF PRODUCT		
Acrylonitrile is mixed up with the majority of organic solvents in any ratio, partially dissolvable in water		
Appearance		
The nitrile of acrylic acid represents colourless, transparent, slightly-movable, inflammable liquid with a pungent smell		
Основные физико-химические свойства		
#	NAME	INDICATOR
1.	Molecular mass	53,06
2.	Temperature of melting, °C	minus 83,55
3.	Specific heat capacity of liquid NAA, kJ/kg K kcal/kg °C	(2,09÷0,13)·10 ⁻³ 0,5 ÷ 0,03
4.	Temperature of boiling at pressure 760 mmHg, °C	77,3
5.	Density at temperature 20 °C, kg/m ³	806
6.	Critical pressure, MPa	342
7.	Critical temperature, °C	245
8.	Hidden heat of evaporation, kJ/kg kcal/kg	615,5 147

9.	Heat of combustion, kJ/kg kcal/kg kJ/mol kcal/mol	33,2 · 10 7925 1758 420,8
10.	Heat of polymerization, kJ/mol kcal/mol	72,4 ÷ 2,09 17,3 ÷ 0,5
11.	Heat of formation at temperature 25 °C, kJ/mol kcal/mol	151,6 ÷ 0,54 36,2 ÷ 0,13
12.	Molecular refraction	15,67(D-line)
13.	Indicator of refraction at 20 °C	1,3910
14.	Dielectric constant, MHz	38,5
15.	Surface tension at 20 °C, H/m din/cm	27,3 · 10 ⁻³ 27,3
16.	Steam density of NAA in air, g/cm ³	1,83
17.	Dynamic viscosity at 25 °C, Pa.c cP	0,34·10 ⁻³ 0,34

Technical parameters

#	NAME	NORMAL VALUES
1.	Density at 20 °C, g/cm ³	0,800÷0,806
2.	Indicator of refraction at 20 °C	1,3910÷1,3920
3.	Mass fraction divinylacethelyne, %, no more than	0,0015
4.	Mass fraction of acetaldehyde, %, no more than	0,01
5.	Mass fraction of prussic acid, %, no more than	0,002
6.	Mass fraction of copper, %, no more than	0,00001
7.	Mass fraction of hydrogen peroxide, %, no more than	0,00002
8.	Mass fraction of water, %, no more than	1,5
9.	Mass fraction of iron, %, no more than	0,00002
10.	Mass fraction of stabilizer, including: - ammonia, % - hydroquinone, %.	0,008-0,012 0,01÷0,1
11.	Scope of boiling, at pressure 760 mm Hg - commence of boiling, no lower than - ending of boiling, no higher - In specified limits it should Outrun by volume, %, no less than	73,5 79,5 97

Package and Storage

Acrylonitrile is filled in railway tanks specially intended for this product.

Acrylonitrile is stored in special tanks, and packed into barrels - in covered warehouse intended for storage of poisonous and inflammable liquids, or under a canopy.

The temperature Acrylonitrile at storage should not exceed 30 °C

Transportation

Acrylonitrile is transported in railway tanks according to the rules of transportation of goods operating on this means of transport.

Product safety

Nitrile of acrylic acid - inflammable toxic liquid with a characteristic smell.

Easily ignites from sparks and a flame, the poured liquid allocates igniting pairs forming with air explosive mixes. Capacities can blow up when heating. In not full capacities explosive mixes are formed, there is also a danger of explosion of steam on air and indoors. When burning, toxic gases are formed. It is necessary to apply installations of gas (carbonic acid) and water (drencher) fire extinguishing to fire extinguishing, carbonic acid fire extinguishers). Use of fire nitrogen is possible.

Dangerous for a person. Acrylonitrile treats the 2nd class of danger. It is dangerous at inhalation, pairs cause irritation of mucous membranes and skin. Acrylonitrile is easily soaked up through the intact skin. Toxic action is similar cyanide (it is caused by formation of cyanide in organism).

Influence of Acrylonitrile causes in the person irritation of eyes, reddening and skin burning, a headache, nausea, weakness, short wind, perspiration, heartbeat, fall of temperature of bodies, weakening of pulse, a spasm, consciousnesses loss, the Serious poisoning can lead to asphyxia and death.

Maximum permissible concentration in working rooms - 0,5 mg/m³.

Expiration date

Warranty period of storage stabilized Acrylonitrile - 3 months from the date of manufacturing