

# Q/YDST

SHANGHAI YOUNG NEW MATERIAL SCIENCE TECHNOLOGY CO., LTD

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Q/YDST 001—2014

## TriethylaluminumDescription

### (TEAL)

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## TEAL Product description



Product name: triethylaluminium (TEAL) or aluminum triethyl

Product standard : Q/YDST001 - 2014

CAS: 97-93-8

HS number: 29420000

UN:3394, 3051

### Quality Requirements

index	Specifications	Test method	remarks
Appearance	ColourlessTransparentLiquid	Q/YDST001-2014	testing
Aluminum	$\geq 23.0$	Q/YDST001-2014	testing
Triethylaluminum	$\geq 95.0$	Q/YDST001-2014	testing
Tri-n-butylaluminum	$\leq 4.0$	Q/YDST001-2014	testing
Triisobutylaluminium	$\leq 0.1$	Q/YDST001-2014	testing
Hydride	$\leq 0.1$	Q/YDST001-2014	testing
tripropylaluminum	trace	Q/YDST001-2014	testing

Packing, storage and handling: net weight 1200kg/cylinder; gross

weight 2100kg/cylinder, prevention from water, fire; handling according to hazardous substances and prevention from exposing to sunlight and rain.

#### **Technological indices:**

Molecular formula:  $(\text{CH}_3\text{CH}_2)_3\text{Al}$

Appearance : Colorless transparent liquid, has the strong mildew smell

Molecular weight : 114.17

Vapor pressure :  $<101 \text{ Pa}/20^\circ\text{C}$

Vapor density (air=1): 3.9

Viscosity :  $2.5 \text{ mPa}\cdot\text{s}/25^\circ\text{C}$

Flash point:  $<-52^\circ\text{C}$

Melting point:  $-52.5^\circ\text{C}$

Boiling point:  $186.6^\circ\text{C}$

Dissolvability : soluble in Benzene

Density : Gravity ( $\text{H}_2\text{O}=1$ ) relative density 0.836

Stability : InStability

#### **Properties and Uses :**

Applicable to olefin polymerization catalysts, It can be reacted to olefins, then get dimers olefin and various kinds of alpha olefins, high carbon alcohol and other chemical intermediates, also can be used as alkylating agent, one of the ziegler-natta catalyst components. not only used in getting tertiary alcohol and secondary alcohol catalyst, but also used for rocket fuel and solar organic silicon production materials.

#### **hazards summarizing**

Class of risk : the No 4.2, avoid water, spontaneous liquid

Invading way: the eyes, skin, and respiratory organs

health hazards to human body: three ethyl aluminum with strong stimulation and corrosion

The influence of eyes: into eyes, causing serious burns and especially burns conjunctiva

The influence of skin: cause skin severe burns and pain.

Inhalation: when inhaled combustion gas can cause high metal hot sickness, inhaled high concentration combustion gas can cause pulmonary edema, inhaling smoke may cause the smoke sickness.

Environmental harm: leakage and enter the water, immediately react, is harmful effects for aquatic organisms.

Explosion hazards: expose in air, automatically burning, While in water, and can further cause explosive reaction and explosive burning.

#### **Emergency measures**

Skin contact: immediately remove contaminated clothing and shoes, if necessary, please use amount of top water thoroughly wash skin and emergency medical treatment.

Eye contact: immediately turned over eyelid, with flowing water or saline water wash at least 15min.

Inhalation: make the victim rapidly moved to fresh air place, surrounded the victim in blankets and keep quiet, keeping respiratory tract unobstructed, when breathing difficulty, provide oxygen to him .

Eating: make the victim vomit, immediately with plenty of water rinse mouth, surrounded his body with a blanket and made him quiet, as soon as possible treatment.

#### **Hazardous characteristics**

TEAL expose to air can automatically burn, meet water occurs explosive reaction and blast burning. If encounter heat (above 120 degrees Celsius) decompose reaction, increases container pressure then explosion and Cracking ,Harmful substances :carbon monoxide, alumina smoke.

#### **Extinguishing method and fire fighting**

Extinguishing agent: dry powder, vermiculite, dry sand covering

Extinguishing methods: first cut fire burning source as soon as possible, use dry sand heap up to isolate the fire area, use dry sand, vermiculite shade covering surface to isolate air. Restrain continue to burn, but also will be exposed to air, so continued to burn in the control the fire extinguisher application situation for its burning: Ban to use foam extinguisher, water extinguisher and carbon dioxide extinguisher appliances, etc.

#### **Fire precautions and measures**

Fire extinguishing personnel must wear protective clothing ,such as wear fire protection clothing、 gas mask and wear glasses and leather gloves etc, avoid inhaling three ethyl aluminum combustion generated white smoke, Prohibit irrelevant personnel enter the fire burning area, especially to remove the water nearby. Rapidly evacuate the personnel to safety place.

Environmental protection measures: make the leaked three ethyl aluminium complete combustion in control, the combustion residues, sorbent, flame retardant must be collected and transported to the waste landfill site.

Processing methods: as soon as possible cut leaked source of three ethyl aluminum, if you can control the fire ,to gradually burn off, It is better to use vermiculite cover or dry sand control and powder fire extinguisher, if necessary, burning will be moved to the safe place to do so for further treatment.

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