



# 与世界橡胶工业共成长

Growing Together with World Rubber Industry

## COMPANY BRIEFING 公司简介

山东斯递尔化工科技有限公司位于山东曹县，占地面积315亩，建筑面积210000平方米。公司集科研开发、生产贸易于一体，主要从事橡胶助剂及其他精细化工产品的研发、生产和经营。

公司设备先进，技术力量雄厚，检测手段齐全。主要产品为橡胶防老剂系列、橡胶促进剂系列、加工助剂系列、防护蜡系列、医药中间体系列及其它精细化工产品。产品均采用国家标准，生产工艺先进，技术管理规范，先后通过了ISO9001：2015质量管理体系认证、ISO14001：2015国际环境体系认证、OHSAS18001:2007职业健康安全管理体系认证。

公司做为国家高新技术企业，设有山东省企业技术中心、山东省重点工程实验室，2016年被批准为山东省院士工作站，先后获得国家发明专利，实用新型专利等多项科研成果。获得中国第八届技术金桥奖，先后被评为中国石油和化工行业技术创新示范企业、山东省“守合同、重信用”企业、山东省工商银行信用AAA企业、中国海关认证企业、山东省节能先进企业、先进集体；公司产品为山东省名牌产品，中国橡胶工业协会推荐品牌产品。

公司以“科技创新、安全环保”为中心，以“中国创造”为目标，以“科技全球共享，传递永恒价值”为理念，赢得了国内外客户的信赖与支持。公司愿以可靠的信誉和优质的产品，为国内外客户真诚友好地服务。

Stair Chemical & Technology Co., Ltd is located in Shandong Caoxian county, covering an area of 52 acres with building area of 160,000 square meters. The company combines the functions of R&D and production and trade, mainly engages in rubber additives and fine chemical products.

The company is fully equipped with modern technical facilities and has strong technical force and complete detection means. Main products are the rubber stabilizer series, rubber accelerator, processing AIDS, protective wax series, pharmaceutical intermediates, and other fine chemical products. All the products are adopted national standards with advanced production technology, and technology management norms. The plants has passed ISO9001:2015 quality management system certification and ISO14001: 2015 international environment system certification and OHSAS 18001:2007 occupational health and safety management system certification and standardization of production safety certification.

As the national high-tech enterprise, the company sets up a technical center of Shandong provincial level, establishes the Shandong Engineering Research Center, and was approved to set up the Academician workstation of Shandong province in 2016.

The company has obtained many achievements such as national invention patents and utility model patents and other many items of scientific and technological achievements. The company obtains the 8th golden bridge award and was appraised as demo enterprise of Chinese chemical and petrol industries on technology innovation. It also has been rated as "Abide by contract with good Credit worthiness" enterprise, AAA enterprise assessed by Industrial and Commercial Bank of China in Shandong province, Customs certification enterprises, Energy-saving Advanced Enterprises in Shandong province. It's honored with the title of "Shandong Golden Bridge Awards Advanced Collective"; The company's products are entitled as Famous Brand Products in shandong province and the Recommended Brand product of China Rubber Industry Association.

The company regards "scientific and technological innovation, safety and environmental protection" as the core value, takes "Created in China" as the goal, bases "globally sharing science and technology, constantly transferring eternal value" as idea, won the trust and support from customers at home and abroad. We would like to serve our customers with reliable reputation and excellent quality product.

# QUALIFICATION & HONOR

## 资质荣誉

### ▶ 企业通过:

ISO9001 : 2015国际质量管理体系认证  
ISO14001 : 2015国际环境管理体系认证  
OHSAS18001 : 2007职业健康体系认证  
IATF16949 : 2016汽车行业质量管理体系

### The enterprise passes the following certification:

ISO9001: 2015 International Quality Management System Certification  
ISO14001: 2015 International Environment Management Certification  
OHSAS18001: 2007 Occupational Health and Safety Management System Certification  
IATF16949: 2016 Auto Industry Quality Management System

### ▶ 荣 获:

国家级高新技术企业  
中国第八届科技市场金桥奖  
山东省化工行业明星单位  
山东省守合同重信用企业  
山东省名牌产品  
市级文明单位

### Prize:

National High and New Technology Enterprise  
Golden Bridge Award of the 8<sup>th</sup> Science Market of China  
Star Enterprise of Shandong Chemical Industry  
The enterprise of "Honor contracts, Abide credit" in Shandong  
Famous Brand Product of Shandong Province  
Municipal Civilized Work Unit

### ▶ 山东斯递尔其它资质荣誉:

中国橡胶工业协会理事单位  
中国橡胶工业协会橡胶助剂专业委员会副理事长单位  
中国橡胶工业协会轮胎分会会员单位  
山东省院士工作站  
山东省企业技术中心  
山东省橡胶工程实验室  
山东省化工理事会理事  
山东省化工联盟理事单位  
中国石油和化工行业技术创新示范企业

### Other:

Council Unit of China Rubber Industry Association  
Council Unit of China Rubber Chemicals Committee  
Member of China Rubber Industry Association, Tyre Branch  
Shandong Province Academician Workstation  
Enterprise Technology Center of Shandong Province  
Rubber Engineering Lab of Shandong  
Council Unit of Shandong Chemical Engineering Council  
Council Unit of Shandong Chemical Union  
Demonstration Enterprise on Technology Innovation of Chinese Petrol & Chemical Industry

# PRODUCT INTRODUCTIONS

## 产品介绍

## 硫化促进剂 TMTM ACCELERATOR TMTM

化学名称: 一硫化四甲基秋兰姆  
分子式:  $C_6H_{12}N_2S_3$   
产品指标: 执行标准 (HG/T 4890-2016)

指标名称	产品技术要求
外观 (目测)	黄色粉末或颗粒
初熔点, °C≥	104.0
加热减量, %≤	0.50
灰分, %≤	0.50
筛余物, %≤	0.10
纯度, %≥	96.0

**性质:** 黄色粉末, 相对密度1.38, 易溶于苯、丙酮、二氯乙烷、二硫化碳、甲苯、氯仿, 微溶于乙醇和乙醚, 不溶于汽油和水。

**用途:** 主要用于制造电缆、轮胎、胶管、胶带、艳色制品和透明制品、鞋类、耐热制品等。

**包装:** 塑编袋或纸塑复合袋, 25公斤/袋。

Chemical Name: tetramethylthiuram monosulfide  
Molecular Formula:  $C_6H_{12}N_2S_3$   
Product Index (HG/T 4890-2016)

Index	Technical Specification
Appearance	Yellow color powder or granule
Initial melting point, °C≥	104.0
Heating loss, %≤	0.50
Ash, %≤	0.50
Residue on sieve, %≤	0.10
Purity, %≥	96.0

**Properties:** Yellow color powder or granule. Relative density 1.2; It is easy to dissolve in benzene, acetone, two chloroethane, carbon disulfide, toluene, chloroform, slightly soluble in ethanol and ether, insoluble in gasoline and water.

**Application:** This is mainly used in the manufacture of cables, tires, rubber tubes, tape, colourful products and transparent products, footwear, heat-resistant products and so on.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag.

## 硫化促进剂 TMTD ACCELERATOR TMTD

化学名称：二硫化四甲基秋兰姆  
分子式： $C_6H_{12}N_2S_4$   
产品指标：执行标准 (HG/T 2334-2007)

指标名称	产品技术要求
外观 (目测)	白色、淡灰白色粉末或粒状或油粉
初熔点, °C≥	140.0
加热减量, %≤	0.30
灰分, %≤	0.30
筛余物 (150μm), %≤	0.10
纯度, %≥	96.0

**性质:** 白色、淡灰白色粉末或粒状或油粉，密度1.29，不溶于稀碱，汽油，溶于苯、丙酮、氯仿、二硫化碳等。

**用途:** 橡胶工业中用作硫化促进剂，农业上用作杀虫剂和杀菌剂，也可作润滑油添加剂。

**包装:** 塑编袋或纸塑复合袋，25公斤/袋，或按客户要求包装。

Chemical Name: Tetramethyl thiuram disulfide  
Molecular Formula:  $C_6H_{12}N_2S_4$   
Product Index (HG/T 2334-2007)

Index	Technical Specification
Appearance	White, light grey powder or granule or oily powder
Initial melting point, °C≥	140.0
Heating loss, %≤	0.30
Ash, %≤	0.30
Residue on sieve (150μm), %≤	0.10
Purity, %≥	96.0

**Properties:** White, light grey powder or granule or oily powder, density is 1.29. Insoluble in dilute alkalis or petrol; Be soluble in benzene, acetone, chloroform, carbon disulfide etc.

**Application:** Accelerator for rubber industry, fungicide and insecticide for agriculture, also can be used as additive for lubrication oil.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag, or packing according to customer's request.

## 硫化促进剂 TBzTD ACCELERATOR TBzTD

化学名称：二硫化四苄基秋兰姆  
分子式： $C_{30}H_{28}N_2S_4$   
产品指标：执行标准 (HG/T 4234-2011)

指标名称	产品技术要求
外观	淡黄色粉末或颗粒
初熔点, °C≥	128.0
加热减量, %≤	0.30
灰分, %≤	0.30
筛余物 (150μm), %≤	0.10
纯度, %≥	96.0

**性质:** 淡黄色粉末，相对密度1.33，溶于苯三氯甲烷，可溶于乙醇，不溶于水。

**用途:** 通用于天然胶与合成胶，是秋兰姆类优良的超促进剂。

**包装:** 塑编袋或复合袋，25公斤/袋，或按客户要求包装。

Chemical Name: Tetrabenzyl thiuram Disulfide  
Molecular Formula:  $C_{30}H_{28}N_2S_4$   
Product Index (HG/T 4234-2011)

Index	Technical Specification
Appearance	Light yellow powder or granule
Initial melting point, °C≥	128.0
Heating loss, %≤	0.30
Ash, %≤	0.30
Residue on sieve (150μm), %≤	0.10
Purity, %≥	96.0

**Properties:** Light yellow powder or granule, relative density 1.33, soluble in Chloroform and alcohol, insoluble in water.

**Application:** Generally used for natural and synthetic rubbers. It is superior accelerator.

**Package:** 25kg in woven bag or paper-plastic compound bag, or packing according to customer's request.

## 硫化促进剂 M(MBT) ACCELERATOR M(MBT)

化学名称：2-硫醇基苯并噻唑  
分子式： $C_7H_5NS_2$   
产品指标：执行标准 ( GB/T 11407-2013 )

指标名称	产品技术要求
外观 ( 目测 )	灰白色或淡黄色粉末或粒状
初熔点, °C≥	170.0
加热减量, %≤	0.30
灰分, %≤	0.30
筛余物 ( 150μm ) , %≤	0.10

**性质:** 灰白色或淡黄色粉末或粒状, 微臭, 有苦味, 密度1.42-1.52, 易溶于乙酸乙酯、丙酮、氢氧化钠及碳酸钠的稀溶液中, 溶于乙醇、不溶于水和汽油, 储存稳定。

**用途:** 天然胶和合成胶的硫化促进剂。

**包装:** 塑编袋或纸塑复合袋, 25公斤/袋, 或按客户要求包装。

Chemical Name: 2-Mercaptobenzothiazole  
Molecular Formula:  $C_7H_5NS_2$   
Product Index (GB/T 11407-2013)

Index	Technical Specification
Appearance	Hoary or light yellow powder or granule
Initial melting point , °C≥	170.0
Heating loss , %≤	0.30
Ash , %≤	0.30
Residue on sieve ( 150μm ) , %≤	0.10

**Properties:** Hoary or light yellow powder or granule, slight osmyl and a bitter taste, nonpoisonous, density is 1.42-1.52. Dissolve easily in acetic ether, acetone, watery of sodium hydrate and soda, be soluble in alcohol; Be insoluble in water and petrol; Reserve steady.

**Application:** Accelerator for natural and synthetic rubber.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag, or packing according to customer's request.

## 硫化促进剂 DM(MBTS) ACCELERATOR DM(MBTS)

化学名称：二硫化二苯并噻唑  
分子式： $C_{14}H_8N_2S_4$   
产品指标：执行标准 ( GB/T 11408-2013 )

指标名称	产品技术要求
外观 ( 目测 )	灰白色或淡黄色粉末或粒状
初熔点, °C≥	164.0
加热减量, %≤	0.40
灰分, %≤	0.50
筛余物 ( 150μm ) , %≤	0.10

**性质:** 灰白色或淡黄色粉末或粒状, 微有苦味, 无毒, 密度1.45-1.54, 可溶于氯仿, 部分溶于苯和乙醇、四氯化碳, 不溶于汽油、水和乙酸。储存稳定。

**用途:** 主要用于制造轮胎、胶管、胶鞋、胶布等一般工业品。

**包装:** 塑编袋或纸塑复合袋, 25公斤/袋, 或按客户要求包装。

Chemical Name: Mercaptobenzothiazole disulfide  
Molecular Formula:  $C_{14}H_8N_2S_4$   
Product Index (GB/ T 11408-2003)

Index	Technical Specification
Appearance	Hoary or light yellow powder or granule
Initial melting point , °C≥	164.0
Heating loss , %≤	0.40
Ash , %≤	0.50
Residue on sieve ( 150μm ) , %≤	0.10

**Properties:** Hoary or light yellow powder or granule, slightly bitter, nonpoisonous, density is 1.45-1.54. Dissolve in chloroform, partly soluble in benzene, alcohol carbon tetrachloride, not be soluble in water, petrol and acetic acid; Reserve steady.

**Application:** Mainly using for commercial products of tyre, hose, rubber shoes, rubberized fabric etc.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag, or packing according to customer's request.

# PRODUCT INTRODUCTIONS

产品介绍

## 硫化促进剂 CZ(CBS) ACCELERATOR CZ(CBS)

化学名称：N-环己基-2-苯并噻唑次磺酰胺

分子式： $C_{13}H_{16}N_2S_2$

产品指标：执行标准 (HG/T 2096-2006)

指标名称	产品技术要求
外观 (目测)	灰白色或淡黄色粉末或粒状
初熔点, °C≥	98.0
加热减量, %≤	0.40
灰分, %≤	0.40
筛余物 (150μm), %≤	0.10
甲醇不溶物, %≤	0.50

**性质:** 灰白色或淡黄色粉末或粒状, 稍有气味, 无毒, 密度1.31-1.34, 易溶于苯, 甲苯, 氯仿、二硫化碳、二氯甲烷, 乙酸乙酯、丙酮, 不溶于水, 稀酸, 稀碱和汽油。

**用途:** 主要用于制造轮胎、胶管、胶鞋、电缆等工业橡胶制品。

**包装:** 塑编袋或纸塑复合袋, 25公斤/袋, 或按客户要求包装。

Chemical Name: N-Cyclohexyl-2-benzothiazole sulfonamide

Molecular Formula:  $C_{13}H_{16}N_2S_2$

Product Index (HG/T 2096-2006)

Index	Technical Specification
Appearance	Hoary or light yellow powder or granule
Initial melting point, °C≥	98.0
Heating loss, %≤	0.40
Ash, %≤	0.40
Residue on sieve (150μm), %≤	0.10
Methanol-insoluble, %≤	0.50

**Properties:** Hoary or light yellow powder or granule, a little bit smelly, nonpoisonous, density is 1.31-1.34. Dissolve easily in benzene, methylbenzene, trichloromethane, acetic ether, acetone, not easily be soluble in alcohol, Be insoluble in water and petrol; Reserve steady.

**Application:** Accelerator for natural and synthetic rubber.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag, or packing according to customer's request.

## 硫化促进剂 NS (TBBS) ACCELERATOR NS (TBBS)

化学名称：N-叔丁基-2-苯并噻唑次磺酰胺

分子式： $C_{11}H_{14}N_2S_2$

产品指标：执行标准 (GB/T 21840-2008)

指标名称	产品技术要求
外观 (目测)	奶白色或淡黄色粉末或颗粒
初熔点, °C≥	104.0
加热减量, %≤	0.40
灰分, %≤	0.40
筛余物 (150μm), %≤	0.10
甲醇不溶物, %≤	1.00

**性质:** 奶白色或淡黄色粉末或颗粒, 密度1.26-1.32, 可溶于乙醇、乙醚、丙酮、氯仿、苯、二硫化碳、四氯化碳、醋酸乙酯等, 不溶于水, 稀碱, 稀酸。

**用途:** 用作轮胎或其它橡胶制品加工时的硫化促进剂。

**包装:** 塑编袋或纸塑复合袋, 25公斤/袋, 或按客户要求包装。

Chemical Name: N-tert-butyl-2-benzothiazole sulfonamide

Molecular Formula:  $C_{11}H_{14}N_2S_2$

Product Index (GB/T 21840-2008)

Index	Technical Specification
Appearance	White or light yellow powder or granule
Initial melting point, °C≥	104.0
Heating loss, %≤	0.40
Ash, %≤	0.40
Residue on sieve (150μm), %≤	0.10
Methanol-insoluble, %≤	1.00

**Properties:** White or light yellow powder or granule, density is 1.26-1.32. Be soluble in alcohol, diethyl ether, benzene, acetone, chloroform, carbon disulfide, phenixin, acetic ether etc; Be insoluble in water or dilute alkalis or dilute acid.

**Application:** Accelerator for tyre manufacturing or other rubber items.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag, or packing according to customer's request.

## 硫化促进剂 **DZ (DCBS)** ACCELERATOR DZ(DCBS)

化学名称：N,N-二环己基-2-苯并噻唑次磺酰胺  
分子式： $C_{19}H_{26}N_2S_2$   
产品指标：执行标准 (HG/T 4140-2010)

指标名称	产品技术要求
外观 (目测)	浅黄色至粉红色粉末或颗粒
初熔点, °C≥	97.0
加热减量, %≤	0.40
灰分, %≤	0.40
环己烷不溶物, %≤	0.50
纯度, %≥	98.0

**性质:** 浅黄色粉末至粉红色粉或颗粒, 相对密度1.2, 熔点不低于97°C, 易溶于苯、二氯甲烷、四氯化碳, 溶于汽油、乙酸乙酯、乙醇, 不溶于水。

**用途:** 本品为后效促进剂, 主要用于制造轮胎、胶带等工业橡胶制品。

**包装:** 塑编袋或纸塑复合袋, 25公斤/袋。

Chemical Name: N,N-dicyclohexyl-2-benzothiazolesulphenamide  
Molecular Formula:  $C_{19}H_{26}N_2S_2$   
Product Index (HG/T 4140-2010)

Index	Technical Specification
Appearance	Yellow light or pink color powder or granule
Initial melting point, °C≥	97.0
Heating loss, %≤	0.40
Ash, %≤	0.40
Insoluble substance in cyclohexane, %≤	0.50
Purity, %≥	98.0

**Properties:** Light yellow or pink color powder or granule. Relative density 1.2; melting point is not lower than 97°C. Easily dissolve in benzene, dichloromethane, carbon tetrachloride; Soluble in petrol, ethyl acetate, alcohol; Be insoluble in water.

**Application:** This is after-effect accelerator. Mainly use for producing tyre, rubber belt etc.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag.

## 硫化促进剂 **NOBS(MBS)** ACCELERATOR NOBS (MBS)

化学名称：N-氧二乙撑基-2-苯并噻唑次磺酰胺  
分子式： $C_{11}H_{12}N_2S_2O$   
产品指标：执行标准 (GB/T 8829-2006)

指标名称	产品技术要求
外观 (目测)	淡黄色或橙黄色颗粒
初熔点, °C≥	78.0
加热减量, %≤	0.50
灰分, %≤	0.40
甲醇不溶物, %≤	0.50

**性质:** 淡黄或橙黄色颗粒, 无毒, 微有胺味, 密度1.34-1.40, 溶于甲苯、丙酮和氯仿, 不溶于水和稀酸、稀碱。受热60°C以上逐渐分解。

**用途:** 主要用于制造轮胎、胶管、胶鞋、运输带等工业橡胶制品。

**包装:** 塑编袋或纸塑复合袋, 25公斤/袋, 或按客户要求包装。

Chemical Name: N-Oxydiethylene-2-benzothiazolyl sulfonamide  
Molecular Formula:  $C_{11}H_{12}N_2S_2O$   
Product Index (GB/T 8829-2006)

Index	Technical Specification
Appearance	Light yellow or orange granule
Initial melting point, °C≥	78.0
Heating loss, %≤	0.50
Ash, %≤	0.40
Methanol-insoluble, %≤	0.50

**Properties:** Light yellow or orange granule, nonpoisonous, smell amine slightly, density is 1.34-1.40. Dissolve in methylbenzene, acetone, chloroform, not be soluble in water, dilute acid and thin alkali; Decomposes by heating above 60°C.

**Application:** Mainly using for producing industrial rubber item of tyre, hose, rubber shoes, conveyer belt etc.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag, or packing according to customer's request.

## 硫化促进剂 **DPG(D)** ACCELERATOR DPG (D)

化学名称：二苯胍  
分子式： $C_{13}H_{13}N_3$   
产品指标：执行标准 (HG/T 2342-2010)

指标名称	产品技术要求
外观 (目测)	白色或灰白色粉末
初熔点, °C≥	144.0
加热减量, %≤	0.30
灰分, %≤	0.30
筛余物 (150μm), %≤	0.10
纯度, %≥	97.0
甲醇不溶物, %≤	0.80

**性质:** 无味, 无毒, 比重1.13-1.19。易溶于丙酮、乙酸乙酯, 溶于苯、乙醇, 微溶于四氯化碳, 不溶于水和汽油。

**用途:** 通用于天然胶与合成胶。主要用于制造轮胎、胶板、胶鞋等橡胶工业制品。

**包装:** 塑编袋或纸塑复合袋, 25公斤/袋, 或按客户要求包装。

Chemical Name: Diphenyl guanidine  
Molecular Formula:  $C_{13}H_{13}N_3$   
Product Index (HG/T 2342-2010)

Index	Technical Specification
Appearance	White or grayish white powder
Initial melting point, °C≥	144.0
Heating loss, %≤	0.30
Ash content, %≤	0.30
Residue (150μm), %≤	0.10
Purity, %≥	97.0
Methanol-insoluble, %≤	0.80

**Properties:** Without odour and poison. Density: 1.13-1.19. Easily soluble in acetone, ethyl acetate; Soluble in benzene, ethanol; Slightly soluble in carbon tetrachloride; Insoluble in water and gasoline.

**Application:** Generally used for natural and synthetic rubbers. Mainly used in manufacture of tires, slab rubber, rubber shoes and other technical rubber products.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag, or packing according to customer's request.

## 橡胶硫化剂 **DTDM** RUBBER VULCANISING AGENT DTDM

化学名称：4,4'-二硫化二吗啉  
分子式： $C_8H_{16}N_2S_2O_2$   
产品指标：执行标准 (HG/T 4389-2012)

指标名称	产品技术要求
外观 (目测)	白色或浅黄色针状晶体
初熔点, °C≥	118.0
加热减量, %≤	0.50
灰分, %≤	0.30
筛余物 (63μm), %≤	0.50

**性质:** 密度1.32-1.38, 溶于苯、四氯化碳、稍溶于丙酮、汽油、难溶于乙醇、乙醚、不溶于水。遇见无机酸或无机碱分解。在常温下储存稳定。无毒, 有鱼腥味。触及皮肤或粘膜能引起强而持久的辛辣感。

**用途:** 主要用于制造轮胎、丁基内胎、胶带和耐热橡胶制品, 也用于高速公路的沥青稳定剂。

**包装:** 塑编袋或纸塑复合袋, 25公斤/袋, 或按客户要求包装。

Chemical Name: 4,4'-dithiodimorpho line  
Molecular Formula:  $C_8H_{16}N_2S_2O_2$   
Product Index (HG/T 4389-2012)

Index	Technical Specification
Appearance	White or light yellow needle-like crystals
Initial melting point, °C≥	118.0
Heating loss, %≤	0.50
Ash, %≤	0.30
Sieve residue (63μm), %≤	0.50

**Properties:** Relative density is 1.32 to 1.38. Dissolve in benzene, carbon tetrachloride; Dissolve a little in acetone, petrol; Be soluble hard in alcohol, aether; Be not soluble in water. De-composes when meets the inorganic acid or the inorganic alkali. Reserved steadily at room temperature. Be nonpoisonous and fishy smell. Touches to skin or the mucous membrane can cause strong and lasting pungent feeling.

**Application:** Mainly use for producing tyre, butyl inner tube, adhesive tape and heat-resisting rubber, also as asphalt stabilizer use for highway.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag, or packing according to customer's request.

# PRODUCT INTRODUCTIONS

产品介绍

## 橡胶防老剂 RD(TMQ) RUBBER ANTIOXIDANT RD(TMQ)

化学名称：2,2,4-三甲基-1,2-二氢化喹啉聚合物

分子式： $(C_{12}H_{15}N)_n$  n=2-4

产品指标：执行标准 ( GB/T 8826-2019 )

指标名称	产品技术要求
外观 (目测)	琥珀至棕色片状、粒状
软化点, °C	80.0-100.0
加热减量, %≤	0.30
灰分, %≤	0.30
二聚体+三聚体+四聚体, %≥	40.0
乙醇不溶物, %≤	0.20
异丙基二苯胺, %≤	1.00

**性质:** 琥珀色至棕色片状或粒状。密度1.05, 能溶于苯、氯仿及丙酮中, 不溶于水, 微溶于石油烃。

**用途:** 用于轮胎工业及其它橡胶制品。

**包装:** 塑编袋或纸塑复合袋, 25公斤/袋, 或按客户要求包装。

Chemical Name: 2,2,4-Trimethyl-1,2-dihydroquinoline polymerized

Molecular Formula:  $(C_{12}H_{15}N)_n$  n=2-4

Product Index (GB/T 8826-2019)

Index	Technical Specification
Appearance	Amber to brown flakes or pastilles
Softening point, °C	80.0-100.0
Heating loss, %≤	0.30
Ash, %≤	0.30
Assay of TMQ%(Sum of di-, triand tetramer), %≥	40.0
Insolubles in alcohol, %≤	0.20
Isopropyl-bis-aniline, %≤	1.00

**Properties:** Amber to brown flakes or pastilles, density is 1.05. Dissolve in benzene chloroform, and acetone; Be insoluble in water; Dissolve a little in petrol hydrocarbon.

**Application:** Use for tyre and other rubber item.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag, or packing according to customer's request.

## 高含量防老剂 RD(TMQ) HIGH PURITY ANTIOXIDANT RD(TMQ)

化学名称：2,2,4-三甲基-1,2-二氢化喹啉聚合物

分子式： $(C_{12}H_{15}N)_n$

产品指标：执行标准 ( GB/T 8826-2019 )

指标名称	产品技术要求
外观	琥珀色至浅棕色颗粒
软化点, °C	80.0-100.0
加热减量, %≤	0.30
灰分, %≤	0.30
二聚体+三聚体+四聚体, %≥	70.0
异丙基二苯胺, %≤	0.50
乙醇不溶物, %≤	0.20
伯胺, %	1.00

**用途:** 本产品是橡胶工业中抗热、氧、老化性能特别优秀的一类通用型胺类防老剂。特别适用全钢、半钢子午线轮胎, 并广泛用于各种轮胎、胶管、胶带、胶鞋、胶布制品及其他一般工业橡胶制品, 也可以用于乳胶制品。

**包装:** 塑编袋或纸塑复合袋, 25公斤/袋, 或按客户要求包装。

Chemical Name: 2,2,4-Trimethyl-1,2-Dihydroquinoline, Polymerized

Molecular Formula:  $(C_{12}H_{15}N)_n$

Product Index (GB/T 8826-2019)

Index	Technical Specification
Appearance	Amber to light brown granule
Softening point, °C	80.0-100.0
Heating loss, %≤	0.30
Ash content, %≤	0.30
Assay of TMQ%(Sum of di-, triand tetramer), %≥	70.0
Isopropyl-bis-aniline, %≤	0.50
Insolubles in alcohol, %≤	0.20
Primary amine, %	1.00

**Application:** The product is particular excellent kinds of general-purpose ammonia anti-ageing. It particular suit to full-steel, semi-steel radial tire and it apply to many kinds of the tires, rubber tube, gum med tape, rubber overshoes and general industrial rubber products and also suits to emulsion products.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag, or packing according to customer's request.



# PRODUCT INTRODUCTIONS

产品介绍

## 橡胶防老剂 4020(6PPD) RUBBER ANTIOXIDANT 4020(6PPD)

化学名称：N-(1,3-二甲基丁基)-N-苯基对苯二胺

分子式：C<sub>18</sub>H<sub>24</sub>N<sub>2</sub>

产品指标：执行标准 (GB/T 21841-2019)

指标名称	产品技术要求
外观	紫褐色粒状固体
结晶点, °C≥	45.5
加热减量, %≤	0.50
灰分, %≤	0.10
纯度, %≥	97.0

**性质：** 低熔点紫褐色或暗褐色块状或粒状。

**用途：** 主要用于制造轮胎、胶鞋、胶带等橡胶工业制品。

**包装：** 塑编袋或纸塑复合袋，25公斤/袋，或按客户要求包装。

Chemical Name: N-(1,3-Dimethyl butyl)-N-phenyl-p-phenyl enediamine

Molecular Formula: C<sub>18</sub>H<sub>24</sub>N<sub>2</sub>

Product Index (GB/T 21841-2019)

Index	Technical Specification
Appearance	Dark violet pastilles
Crystallization point, °C≥	45.5
Heating loss, %≤	0.50
Ash, %≤	0.10
Purity, %≥	97.0

**Properties:** Dark violet pastilles.

**Application:** Mainly use for producing rubber industrial products of tyre, rubber shoes, conveyer belt etc.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag, or packing according to customer's request.

## 橡胶防老剂 4010NA(IPPD) RUBBER ANTIOXIDANT 4010NA(IPPD)

化学名称：N-异丙基-N'-苯基对苯二胺

分子式：C<sub>15</sub>H<sub>18</sub>N<sub>2</sub>

产品指标：执行标准 (GB/T 8828-2003)

指标名称	产品技术要求
外观 (目测)	灰紫色至紫褐色粒状固体
熔点, °C≥	70.0
加热减量, %≤	0.50
灰分, %≤	0.30
纯度, %≥	92.0

**性质：** 灰紫色至紫褐色粒状固体，可溶于苯、丙酮、四氯化碳、乙醇，微溶于水。

**用途：** 主要用于制造轮胎、胶鞋、胶带等橡胶工业制品。

**包装：** 塑编袋或纸塑复合袋，25公斤/袋，或按客户要求包装。

Chemical Name: N-I sopropy I-N'-pheny I-p-phenylenedi amine

Molecular Formula: C<sub>15</sub>H<sub>18</sub>N<sub>2</sub>

Product Index (GB/T 8828-2003)

Index	Technical Specification
Appearance	Dark brown to dark violet pastilles
Melting point, °C≥	70.0
Heating loss, %≤	0.50
Ash, %≤	0.30
Purity, %≥	92.0

**Properties:** Dark brown to dark violet pastilles; Dissolve in benzene, acetone, carbon tetrachloride, alcohol; Be slightly soluble in water.

**Application:** Mainly use for producing rubber industrial products of tyre, rubber shoes, conveyer belt etc.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag, or packing according to customer's request.

## 橡胶防老剂 **DTPD(3100)** RUBBER ANTIOXIDANT DTPD(3100)

化学名称：N,N'-二苯基对苯二胺、N,N'-二甲苯基对苯二胺、  
N-苯基-N'-甲苯基对苯二胺（混合物）  
产品指标：执行标准（HG/T 4233-2011）

指标名称	产品技术要求
外观（目测）	棕灰色至黑色片状或颗粒状
初熔点，℃	92.0~98.0
加热减量，%≤	0.30
灰分，%≤	0.30
含量，%≥	90.0

**性质：**可溶于苯、丙酮、甲苯、乙醚和乙酸乙酯及温热的四氯化碳、乙醇中，微溶于汽油，不溶于水。

**用途：**是一种优秀的防老剂，用于制造轮胎等橡胶制品。

**包装：**塑编袋或纸塑复合袋，25公斤/袋。

Chemical Name: N, N' - two phenyl - benzyl - two amine, N, N' - xylene - benzyl - two amine,  
N- phenyl -N' - toluyl - benzyl - to - benzyl - two amine (mixture)  
Product Index (HG/T 4233-2011)

Index	Technical Specification
Appearance	Brown grayish to black flaky or granular
Initial melting point , °C≥	92.0~98.0
Heating loss , %≤	0.30
Ash , %≤	0.30
Content , %≥	90.0

**Properties:** Soluble in benzene, acetone, toluene, ethyl ether and ethyl acetate, and warm carbon tetrachloride, ethanol, slightly soluble in gasoline, insoluble in water.

**Application:** This is an excellent antioxidant. Rubber products, such as tyres, etc.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag.

## 深色均匀剂 **STR40** HOMOGENIZING AGENT STR40

化学组成：深色芳香烃、脂肪烃树脂混合物

指标名称	产品技术要求
外观	灰褐色或黑色颗粒状
密度	1.06
软化点，℃	95.0-110.0
灰分，%≤	2.0
生化作用	参见物质安全资料表
储存稳定性	正常条件下可存放至少1年

**用途：**STR40有利于改进不同极性、不同黏度的胶料的混炼均匀性。经由表面湿润能被胶料迅速吸收，加速胶料配方中成分的快速结合。STR40降低胶料的门尼粘度，改善胶料流动性，使混炼后的压延、压出等工艺更简单、建议STR40在混炼周期开始时即加入，可达到最佳的润湿效果，特别在气密层和胶囊胶料中普遍采用。

**包装：**塑编袋或纸塑复合袋，25公斤/袋，或按客户要求包装。

**用量：**4-15phr

**适用范围：**NR BR SBR LPDM CR I IR等。

Chemical composition: Dark mixture of aromatic hydrocarbon resin and fatty hydrocarbon

Index	Technical Specification
Appearance	Gray brown or dark color granule
Specific gravity	1.06
Softening point , °C	95.0-110.0
Ash , %≤	2.0
Biochemical effect	Refer to MSDS
Storage stability	At least 1 year under normal temperature

**Application:** TR40 is used to improve the milling homogeneity of rubber material with different polarity and viscosity, absorbed rapidly by rubber material through wetting on the surface and boost rapid combination of rubber material ingredients. STR40 is used for reduction of mooney viscosity and improve mobility of rubber material, which make the procedure related with rolling and extrusion more simple. The best effectiveness can be achieved when STR40 is used at the beginning of milling procedure. It is suggested to be added at the beginning of mixing in order to achieve the best effect of wetting and broadly used in process of inner liner and capsule rubber.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag, or packing according to customer's request.

**Dosage:** 4-15 phr

**Usage Range:** NR BR SBR NBR EPDM CR 11R and so on.

## 炭黑分散剂 STR60 CARBON BLACK DISPERSING AGENT STR60

化学组成：不饱和高分子量脂肪酸锌盐混合物

指标名称	产品技术要求
外观	黄色或浅棕色颗粒
熔点, °C≥	93.0
灰分, %	12.0-14.0
加热减量, %≤	1.0

**用途:** 天然橡胶、异戊橡胶及它与其他合成橡胶并用的塑解剂；合成橡胶的加工助剂；用于NR和IR在开炼机温度低至60°C时仍有效，在橡胶中可溶，可达到均匀的塑解结果而不会喷霜。可延长焦烧时间，用作各种填料的分散剂可使各种物料分散均匀，提高胶料流动性。含锌能促进硫化，不必另加硬脂酸且可降低氧化锌用量。能缩短混炼时间，改善未硫化胶的流动性能。对橡胶和金属粘接无不利影响。能改善胶料储存稳定性，对直接硫化过程尤其有利。适合各种模压和挤出制品，发泡橡胶制品、硬质橡胶。用作物理塑解剂，在混炼初期加入；用作活化剂和加工助剂，与填料一起加入。

**储存:** 密封存在阴凉、干燥处、通风良好的地方。避免阳光直射，储存期18个月。

**包装:** 塑编袋或纸塑复合袋，25公斤/袋，或按客户要求包装。

**用量:** 1-3phr

**适用范围:** NR,NBR,SBR,EPDM,EPM,HNBR等。

Chemical Composition: High molecular weight unsaturated fatty acids zinc salt mixture

Index	Technical Specification
Appearance	Yellow or light brown granule
Melting point , °C≥	93.0
Ash , %	12.0-14.0
Heating loss , %≤	1.0

**Application:** The product is the peptizer of natural rubber and isoprene rubber and some other synthetic rubbers and also is the processing agent of synthetic rubbers. It is effective for NR and IR when the temperature of open mill is under 60°C. and solved in rubbers to get even peptization without blooming and meanwhile extends the scorching time. As the dispersant of many kinds of stuffing, it can make the stuffing dispersed well and increases the liquidity of stuffing. Since it is zinc containing, no need to add the stearic acid and decrease the volume of zinc oxide, shorten the mixing time and improve the liquidity of rubber unvulcanizate. It is harmless to the connection between rubber and metal and it can improve the storage stability of rubber and especially beneficial to direct vulcanization. It is applicable to all kinds of mould pressing and extruding product and foaming and hard rubbers. As the physical peptizer, it is added at the beginning phase of mixing. As the activator and processing agent, it is added together with other stuffing.

**Storage:** sealed in cool, dry place with well ventilation. Avoid exposure to direct sunlight. The storage life is 18months.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag, or packing according to customer's request.

**Dosage:** 1-3phr

**Usage Range:** NR、BR、SBR、EPDM、EPM、HNBR and so on.

## 白炭黑分散剂 STR70 SILICA DISPERSING AGENT STR70

化学组成：高分子量脂肪酸锌盐及多元酯的混合物。

指标名称	产品技术要求
外观	白色或浅棕色颗粒
比重, g/cm <sup>3</sup>	1.10
熔点, °C	93.0-110.0
灰分, %最大值	17.0
储存稳定性	正常条件下可存放至少2年

**用途:** STR70 是应用天然胶及合成胶的加工助剂，改善填充剂分散性，尤其是矿物填充剂，并使每批胶料之均一性提高。

**包装:** 塑编袋或纸塑复合袋，25公斤/袋，或按客户要求包装。

**用量:** 2-5 phr

**适用范围:** NR BR SBR NBR EPDM等

Chemical Composition: Blend of high molecular weight fatty acid zinc salt and polyester

Index	Technical Specification
Appearance	White or light brown granule
Specific gravity , g/cm <sup>3</sup>	1.10
Melting point , °C	93.0-110.0
Ash content , % max	17.0
Storage stability	At least 2 years under normal conditions

**Application:** STR70 is the processing aid in the application of natural rubber and synthetic rubber, which improve the dispersion of filler, especially for mineral filler, and improve the homogeneity of each batch of rubbers.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag, or packing according to customer's request.

**Dosage:** 2-5 phr

**Usage Range:** NR BR SBR NBR EPDM etc.

## 高效能塑解剂 STRP22 HIGH EFFICIENT PEPTIZER STRP22

化学组成：2,2'-二苯甲酰氨基二苯基二硫化物

指标名称	产品技术要求
外观	白色或黄色粉末
熔点, °C	136.0-150.0
灰分, %	0.50
加热减量, %≤	0.50
筛余物 ( 150μm ) , %≤	0.50

**性质:** 白色或黄色粉末, 易溶于苯、乙醇等有机溶剂, 不溶于水, 毒性低, 无污染。

**用途:** 主要用于天然橡胶和丁苯橡胶的塑炼, 易在120°C以上的温度中使用, 特别适用于高温密炼加工。能有效的缩短塑炼的时间, 提高塑炼的效率。使用过程中不影响橡胶的老化性, 不喷霜。在天然橡胶中的用量为0.05%-0.5%, 在丁苯橡胶中的用量为0.5%-3.0%。

**储存:** 密封存储在阴凉, 干燥、通风良好的地方, 避免阳光直射。

**包装:** 塑编袋或纸塑复合袋, 25公斤/袋, 或按客户要求包装。

Composition Composition: Two benzoyl amine diphenyl disulfide

Index	Technical Specification
Appearance	White or pale yellow powder
Melting point , °C	136.0-150.0
Ash , %	0.50
Heating loss , %≤	0.50
Residue on sieve ( 150μm ) , %≤	0.50

**Properties:** White or pale yellow powder, soluble in organic solvent such as benzene. ethanol, etc. Insoluble in water; Low toxicity nor polluted.

**Application:** It is an effective chemical peptizer for NR and SBR. It is specially suitable for mixing at high temperature over 120°C. It can reduce the milling time greatly, and thereby can save the power consumption, and it has little effect on the aging properties of rubber products and has no blooming. Dosage in NR are 0.05%-0.5%, and in SBR are 0.5%-3.0%.

**Storage:** Sealed in a cool, dry, well-ventilated area. Avoid exposure to direct sunlight.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag, or packing according to customer's request.

## 高效能塑解剂 STRA86 HIGH EFFICIENT PEPTIZER STRA86

化学组成：2,2'-二苯甲酰氨基二苯基二硫化物, 合成活性剂, 惰性载体和有机分散剂的混合物

指标名称	产品技术要求
外观	蓝色片状固体
熔点, °C	50.0-60.0
灰分, %	16.0-18.0
加热减量, %≤	0.50

**性质:** STRA-86为P22的衍生产品, 呈蓝色片状, 与传统粉末状塑解剂相比, 在加工性能和工作环境上有很大改善, 并能自由流动, 适于自动称量。本品在正常条件下使用没有危害性, 在低温干燥的条件下储存稳定性好。

**用途:** 作为天然橡胶、合成橡胶或并用胶的环保塑解剂, 用于轮胎或其它橡胶工业制品。

**包装:** 塑编袋或纸塑复合袋, 25公斤/袋, 或按客户要求包装。

Chemical Composition: Two benzoyl amine diphenyl disulfide, synthetic activator, mixer of inert carrier and organic dispersing agent.

Index	Technical Specification
Appearance	Blue flake solid
Melting point , °C	50.0-60.0
Ash , %	16.0-18.0
Heating loss , %≤	0.50

**Properties:** STRA-86 is the derivative of P22 with the shape in blue flakes. Comparing with the traditional powder peptizers, it has been greatly increased in performance and environment. It can be free floating and automatic weighing. It is harmless under proper using conditions, and reserved steady in low temperature and dry environment.

**Application:** As an environment-friendly peptizer, it's for natural rubber, synthetic and blended rubber, used for tire and other rubber products.

**Package:** 25kg in plastic woven bag or paper-plastic compound bag, or packing according to customer's request.

## 高效能塑解剂 STRP401 HIGH EFFICIENT PEPTIZER STRP401

化学组成：2,2'-二苯甲酰基二苯基二硫化物，金属有机化合物，惰性载体和有机分散剂的混合物。

指标名称	产品技术要求
外观	浅绿色颗粒
熔点，℃	55.0-65.0
灰分，%	0.50
DBD，%	39.0-41.0
加热减量，%≤	0.50

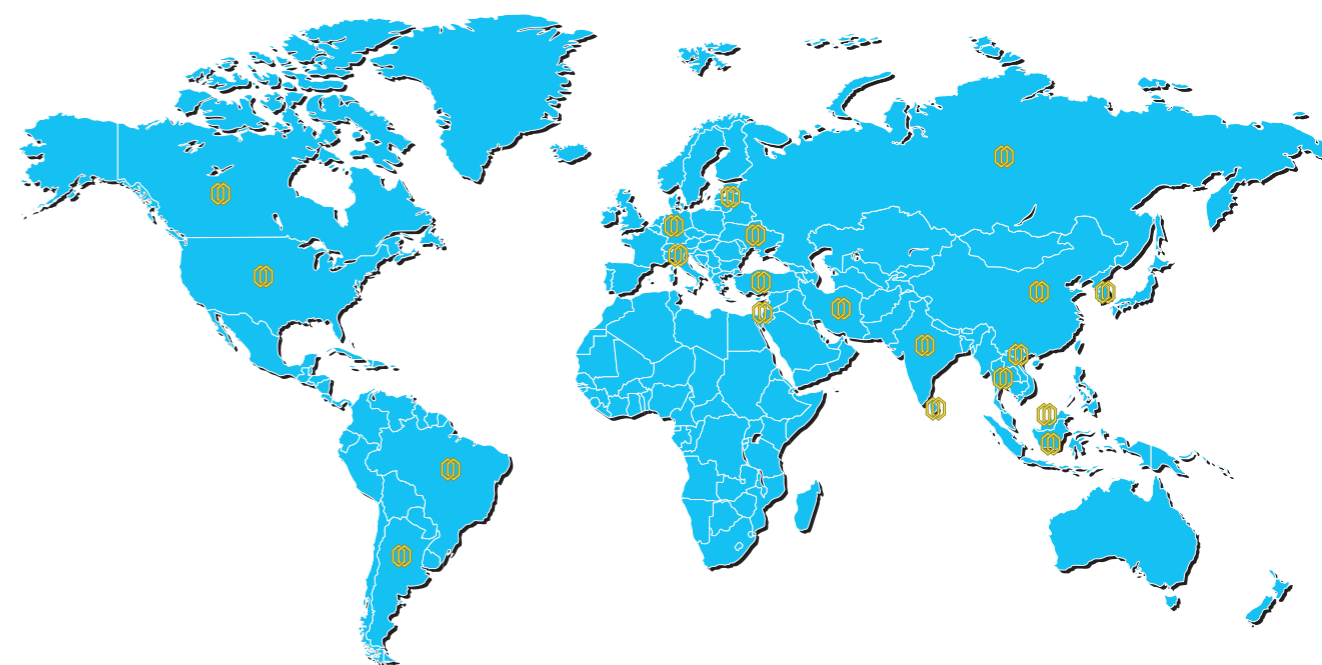
- 性质：** STRP401为STRP22的衍生产品，呈浅绿色片状，与传统的粉末状塑解剂相比，在加工性能和工作环境上有很大的改善，并能自由流动。
- 用途：** 主要用于天然橡胶和饱和合成胶的塑炼阶段，可以提高塑炼效率，在70℃以上有塑炼效果，在150-160℃时效最好，STRP401在生产过程中能有效的缩短塑炼时间，减少能耗，降低生产成本，提高生产能力。可在塑炼时单独加入，也可以与促进剂M、DM同时加入，添加量为塑料重量的0.1-0.5%。
- 储存：** 密封存储在阴凉、干燥、通风良好的地方，避免阳光直射。
- 包装：** 塑编袋或纸塑复合袋，25公斤/袋，或按客户要求包装。

Chemical Composition: Mixture of two benzoyl amine diphenyl disulfide and metallo-organic compound and inert carrier and organic dispersant

Index	Technical Specification
Appearance	Light green granule
Melting point , °C	55.0-65.0
Ash , %	0.50
DBD , %	39.0-41.0
Heating loss , %≤	0.50

- Properties:** STRP401, a type of derivative products of STRP22, is non-dusting light green granules. Compared with powder peptizer, it can flow free so as to improve the operating environment greatly.
- Application:** STRP401 is specially formulated peptiser suitable as mastication aids in a variety of processing conditions for nature rubber or unsaturated synthetic rubber, and should be added at the beginning of the mixing cycle, in internal mixers or open mills. It can enhance the milling efficiency evidently at processing temperature over 70°C, and at 150 to 160°C, the effect is the best. It can promote the molecular chains to break and reduce the milling time, so as to with accelerators such as M、DM. Recommended dosage is 0.1%-0.5%.
- Storage:** sealed in a cool, dry, well-ventilated area. Avoid exposure to direct sunlight .
- Package:** 25kg in plastic woven bag or paper-plastic compound bag, or packing according to customer's request.

## SALES NETWORK 销售网络



橡胶助剂系列产品出口到美国，加拿大，德国，意大利，巴西，阿根廷，墨西哥，土耳其，以色列，俄罗斯，乌克兰，拉脱维亚，印度，马来西亚，泰国，印尼，韩国，斯里兰卡，越南，伊朗等40多个国家和地区。

Rubber additives series of products are exported to the United States, Canada, Germany, Italy, Brazil, Argentina, Mexico, Turkey, Israel, Russia, Ukraine, Latvia, India, Malaysia, Thailand, Indonesia, South Korea, Sri Lanka, Vietnam, Iran and so on more than 40 countries and regions.