

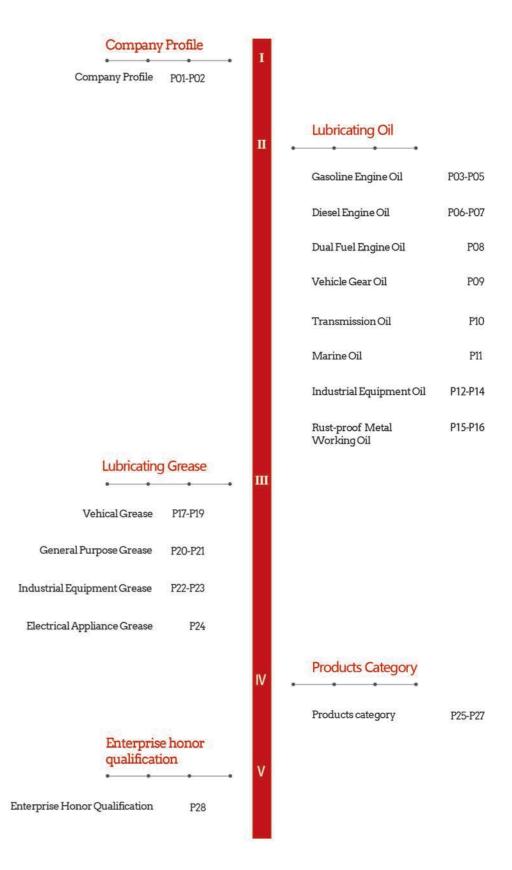
ANHUI ZHONGTIAN PETROCHEMICAL CO., LTD.



ANHUI ZHONGTIAN PETROCHEMICAL CO., LTD.

Add: Economic Development Zone, Susong, Anhui, China(Production Base)
No.4978 Huizhou Avenue, Binhu New District, Hefei, China(Marketing Center)
Tel: 86-551-6351 8876
Http:// www.ahztsh.com





# **CONTENTS**

Page 01-02
zhong tian petrochemica



# **COMPANY PROFILE**

ANHUI ZHONGTIAN PETROCHEMICAL CO., LTD. www.ahztsh.com

Founded in 1998, Anhui Zhongtian Petrochemical Co., Ltd. is a national high-tech enterprise specialized in R&D, production, sales and technical services of lubricating oils and greases.

The company is located in Susong economic development zone, where it's the junction place of Anhui, Hubei and Jiangxi provinces, and where Hefei-Jiujiang railway, Shanghai-Chongqing expressway and 105 national road pass through. It takes two hours by car to the capital cities such as Wuhan, Nanchang and Hefei, which has convenient transportation and unique geographical advantages.

As the leading professional manufacturer of lubricants, the company built first-class intelligent manufacturing production line, equipped with advanced production equipment and sophisticated testing equipment, so as to realize intelligent and accurate production, annual output capacity could up to one hundred and fifty thousand tons. Oils and greases totally more than 700 types, which widely used in industrial and agricultural mechnical equipments, transportation vehicles, national defense & military equipments and civilian facilities etc. Of 60 types of them, the technology is advanced both in domestic and overseas. The company's comprehensive index of production scale, brand influence, scientific research level and economic strength ranks first class in peer private companies.

The company owns a team of well-known experts, professors and experienced technical staff, and established close "school-enterprise" relationship with Tsinghua University, RIPP, HFUT etc., which achieved remarkable R&D results. Academician workstation of Anhui Province was set up, and also the company was honored as "Anhui Province Technology Center", "Anhui Province Lubricants Engineering Research Center" and "Anhui Lubricants Standardization Technical Committee".

The company acquired ISO9001 quality management system certification and ISO14001 environment management system certification, and completed a variety of projects, such as technology reform, technology innovation and torch plan approved by MOST (Ministry of Science and Technology), NDRC (National Development and Reform Commission) and MIIT (Ministry of Industry and Information Technology).

Proprietary brands "Fumantian" and "Noblu" are honored as "Anhui Famous Brand", and "Fumantian" is honored as "China Famous Brand". The company was honored the titles "Anhui Province Quality Award" and "Anhui Famous Branded Product" for consecutive years; and it achieved scientific and technological achievements, high-tech products and various patents, totally more than 80 items, 20 more of them are invention patents.

We always adhere to the business philosophy "Create quality with love, Serve customer with sincerity" and the service mission "Product sold, Responsibility starts". Based on the market, by preposing technology the company overcame many difficulties and achieved continuous innovation. Product quality and technology takes the lead in the domestic peer industry and chases world-class brands such as Mobil, Shell etc. The company established long-term stable business relationship with JAC Group, Ankai Bus, CAMC automotive, Maanshan Iron & Steel, Quanchai Group, Pearl Cement, Kobelco, Hitachi excavator and other large domestic and foreign enterprises. Products take up an area of more than eighty percent in domestic market, and many of them exported to Japan, Russia, South Asia and South-East Asia.

Following the time and trend of the economy, by first-class technology, first-class products and first-class service, the company achieves a series of honorary titles such

as "National High-Tech Enterprise", "National Intellectual Property Advanced Enterprise", "China's Petroleum And Chemical Industry Technology Innovation Demonstration Enterprise", "National Trustworthy Enterprise", "China's Most Independent Innovation Enterprise", "Technology Innovative Demonstration Enterprise Of Anhui Province", "Industry and Information Technology Standardization Demonstration Enterprise of Anhui" and "Top 50 brands of Jiangsu, Zhejiang, Anhui, Jiangxi and Shanghai".

"Lubricating For Mechanical Friction, Oiling For National Rejuvenation". By promoting technology upgrading, accelerating business model transformation, the company continues to adhere to the six keystones "Scientific and Technological Innovation, Brand Strengthening, Market Exploiting, Team Building, Culture Creativity, Value Creation", and continues to serve the traditional market, strengthens e-commerce, international trade and engineering vehicle post-market, fast-promotes crossover cooperation with logistics network platform, actively develops the economy of oil-consuming recycling, determined to build the company into a world-class high-tech lubricants enterprise in the new era.

The pursuit of excellence is endless. On the higher platform, the company will better serve customers and contribute to society with more enthusiasm, higher technology, more perfect quality and more superior service!



# LUBRICATING OIL >

# Gasoline Engine Oil



## SN Gasoline Engine oil

Description

This product is produced by advanced blending technology with synthetic technology and functional nano-materials. It can reduce friction, improve engine efficiency, repair the scratches automatically and fully protect the

Application

 $Suitable\ for\ gasoline\ engines\ require\ SN\ quality\ grade\ and\ below\ the\ level.$ 

Quality Grade

Viscosity Grade SAE OW/20, OW/30, OW/40, 5W/30, 5W/40

| ITEM  | QUALITY STANDARD |             |                      |          |           |  |  |  |
|---|------------------|-------------|----------------------|----------|-----------|--|--|--|
|   | 5W/30            | 10W/30      | 15W/40               | 30       | 40        |  |  |  |
| Viscosity(100°C),mm2/s  | 9.3-<12.5        | 9.3-<12.5   | 12.5-<16.3           | 9.3<12.5 | 12.5<16.3 |  |  |  |
| Low temperature dynamic viscosity (mPa.s) <   | 6600(-30°C)      | 7000(-25°C) | 7000(-20°C)          | -        | 2         |  |  |  |
| Flash piont (open-cup) , ℃ >  | 200              | 205         | 215                  | 220      | 225       |  |  |  |
| Pour point, ℃≤  | -35              | -30         | -25                  | -15      | -10       |  |  |  |
| Foam Tendency(foam stability), ml/ml<br>24°C, ml/ml <<br>93.5°C, ml/ml <<br>Second Time 24°C, ml/ml < |                  |             | 10/0<br>50/0<br>10/0 |          |           |  |  |  |

#### SM Gasoline Engine oil

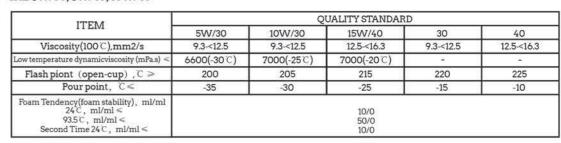
Description This product is produced by advanced blending technology with imported premium synthetic oil and functional nano-materials. It can reduce friction, improve engine efficiency, repair the scratches automatically and fully protect the engine.

Application

Suitable for gasoline engines require SM quality grade and below the level.

Quality Grade

Viscosity Grade SAE 5W/30, 5W/40, 10W/40







# Page 05-06

#### SL Gasoline Engine oil

Description This product is produced by advanced blending technology with imported premium synthetic oil and functional nano-materials. It can reduce friction, improve engine efficiency, repair the scratches and fully protect

Application Suitable for gasoline engines require SL quality grade and below the level.

Quality Grade

Viscosity Grade

SAE 5W/30, 5W/40, 10W/40

| ITEM  | QUALITY STANDARD |             |                      |           |           |  |  |  |
|---|------------------|-------------|----------------------|-----------|-----------|--|--|--|
| II EIVI   | 5W/30            | 10W/30      | 15W/40               | 30        | 40        |  |  |  |
| Viscosity(100°C),mm2/s  | 9.3-<12.5        | 9.3<12.5    | 12.5-<16.3           | 9.3-<12.5 | 12.5<16.3 |  |  |  |
| Low temperature dynamicviscosity (mPa.s) <  | 6600(-30°C)      | 7000(-25°C) | 7000(-20°C)          | (2)       | 9         |  |  |  |
| Flash piont (open-cup) , C ≥  | 200              | 205         | 215                  | 220       | 225       |  |  |  |
| Pour point, °C≤   | -35              | -30         | -25                  | -15       | -10       |  |  |  |
| Foam Tendency(foam stability), ml/ml<br>24°C, ml/ml <<br>93.5°C, ml/ml <<br>Second Time 24°C, ml/ml < |                  |             | 10/0<br>50/0<br>10/0 |           |           |  |  |  |

## SJ Gasoline Engine oil

Description

This product is produced by advanced blending technology with imported hydrogenation base oil and high quality additives. Suitable for gasoline engines require SJ quality grade and below the level.

Application

Quality Grade

Viscosity Grade

SAE 10W/30, 10W/40, 15W/40

Technical indicators

| ITEM  | QUALITY STANDARD |             |                      |              |           |  |  |  |
|---|------------------|-------------|----------------------|--------------|-----------|--|--|--|
|   | 5W/30            | 10W/30      | 15W/40               | 30           | 40        |  |  |  |
| Viscosity(100°C),mm2/s  | 9.3-<12.5        | 9.3<12.5    | 12.5-<16.3           | 9.3<12.5     | 12.5<16.3 |  |  |  |
| Low temperature dynamicviscosity (mPa.s) <  | 6600(-30°C)      | 7000(-25°C) | 7000(-20°C)          | ( <u>*</u> ) | 3         |  |  |  |
| Flash piont (open-cup) , C ≥  | 200              | 205         | 215                  | 220          | 225       |  |  |  |
| Pour point, °C≤   | -35              | -30         | -25                  | -15          | -10       |  |  |  |
| Foam Tendency(foam stability), ml/ml<br>24°C, ml/ml <<br>93.5°C, ml/ml <<br>Second Time 24°C, ml/ml < |                  |             | 10/0<br>50/0<br>10/0 |              |           |  |  |  |

## SG Gasoline Engine oil

Description

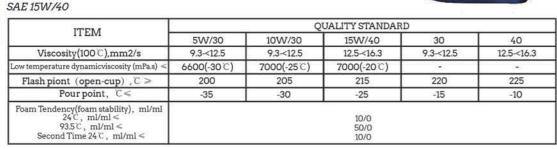
This product is produced by advanced blending technology with imported hydrogenation base oil and imported premium additives.

Application Suitable for gasoline engines require SG quality grade and below the level.

Quality Grade SG

Viscosity Grade

Technical indicators





#### CJ-4 Diesel engine oil

Description

This product is produced by advanced blending technology with refined high viscosity index base oil and synthetic base oil and imported composite

Application

Suitable for diesel engines require CJ-4 quality grade and below the level, applied to the equipments with heavy duty, high supercharging and high power such as container transport vehicles, construction vehicles, generator sets, large farm machinery equipment, mining and construction engineering equipment.

Quality Grade

Viscosity Grade

SAE 15W/40, 20W/50

| ITEM   |              | Tast Mathed  |              |                      |           |                   |             |
|--|--------------|--------------|--------------|----------------------|-----------|-------------------|-------------|
| I I Elvi   | 5W/30        | 10W/30       | 15W/40       | 20W/40               | 30        | 40                | Test Method |
| Viscosity(100°C),mm2/s   | 9.3<12.5     | 9.3-<12.5    | 12.5-<16.3   | 12.5-<16.3           | 9.3-<12.5 | 12.5-<16.3        | GB/T265     |
| Low temperature dynamicviscosity (mPa.s) <   | 6600(-30°C)  | 7000(-25°C)  | 7000(-20°C)  | 9500(-15°C)          | <b></b>   |                   | GB/T6538    |
| Boundary pumping temperature ℃ <   | 60000(-35°C) | 60000(-30°C) | 60000(-25°C) | 60000(-20°C)         | 8         | o <del>(#</del> ) | SH/0562     |
| Flash piont (open-cup) , C ≥   | 200          | 205          | 215          | 215                  | 220       | 225               | GB/T3536    |
| Pour point, 'C≤  | -35          | -30          | -25          | -20                  | -15       | -10               | GB/T3535    |
| $\label{eq:condition} \begin{array}{c} \text{Foam Tendency(foam stability)}, \ \ \text{ml/ml} \\ 24 C, \ \ \text{ml/ml} \leqslant \\ 93.5 C, \ \ \text{ml/ml} \leqslant \\ \text{Second Time 24} C, \ \ \text{ml/ml} \leqslant \\ \end{array}$ |              |              |              | 10/0<br>20/0<br>10/0 |           |                   | GB/T12579   |

#### CI-4 Diesel engine oil

Description

This product is produced by advanced blending technology with the imported semi-synthetic base oil and high quality additives.

Application

Suitable for diesel engines require CI-4 quality grade and below the level, applied to the equipments with heavy duty, high supercharging and high power such as container transport vehicles, construction vehicles, generator sets, large farm equipment, mining and construction engineering equipment.

Quality Grade CI-4

Viscosity Grade

SAF 15W/40 20W/50

| ITEM  |                      |              | QUALI        | TYSTANDARD   | K.        |           |             |
|---|----------------------|--------------|--------------|--------------|-----------|-----------|-------------|
| II EIVI   | 5W/30                | 10W/30       | 15W/40       | 20W/40       | 30        | 40        | Test Method |
| Viscosity(100°C),mm2/s  | 9.3-<12.5            | 9.3-<12.5    | 12.5-<16.3   | 12.5-<16.3   | 9.3-<12.5 | 12.5<16.3 | GB/T265     |
| Low temperature dynamic viscosity (mPa.s) <   | 6600(-30°C)          | 7000(-25°C)  | 7000(-20°C)  | 9500(-15°C)  |           | 1.50      | GB/T6538    |
| Boundary pumping temperature ℃ ≤  | 60000(-35°C)         | 60000(-30°C) | 60000(-25°C) | 60000(-20°C) | 2         | (E)       | SH/0562     |
| Flash piont (open-cup) , ℃ >  | 200                  | 205          | 215          | 215          | 220       | 225       | GB/T3536    |
| Pour point, °C≤   | -35                  | -30          | -25          | -20          | -15       | -10       | GB/T3535    |
| $\begin{array}{c} \text{Foam Tendency(foam stability), }  \text{ml/ml} \\ 24 \text{C},  \text{ml/ml} \leqslant \\ 93.5 \text{C},  \text{ml/ml} \leqslant \\ \text{Second Time 24} \text{C},  \text{ml/ml} \leqslant \\ \end{array}$ | 10/0<br>20/0<br>10/0 |              |              |              |           |           | GB/T12579   |





#### CH-4 Diesel engine oil

Description

This product is produced by advanced blending technology with the imported premium hydrogenation base oil and imported high quality

Application Suitable for diesel engines require CH-4 quality grade and below the level. applied to the equipments with heavy duty, high supercharging and high power such as container transport vehicles, construction vehicles, generator sets, large farm equipment, mining and construction engineering equipment.

Quality Grade CH-4

Viscosity Grade

SAE 15W/40, 20W/50

| ITEM  |              |              | QUALITY STANDARD |                      |          |            |             |  |  |  |
|---|--------------|--------------|------------------|----------------------|----------|------------|-------------|--|--|--|
| I I EIVI  | 5W/30        | 10W/30       | 15W/40           | 20W/40               | 30       | 40         | Test Method |  |  |  |
| Viscosity(100°C),mm2/s  | 9.3<12.5     | 9.3<12.5     | 12.5-<16.3       | 12.5-<16.3           | 9.3<12.5 | 12.5-<16.3 | GB/T265     |  |  |  |
| Low temperature dynamic viscosity (mPa.s) <   | 6600(-30°C)  | 7000(-25°C)  | 7000(-20°C)      | 9500(-15°C)          |          | 577        | GB/T6538    |  |  |  |
| Boundary pumping temperature ℃ <  | 60000(-35°C) | 60000(-30°C) | 60000(-25°C)     | 60000(-20°C)         | 2        | 1 12       | SH/0562     |  |  |  |
| Flash piont (open-cup) , C ≥  | 200          | 205          | 215              | 215                  | 220      | 225        | GB/T3536    |  |  |  |
| Pour point, °C≤   | -35          | -30          | -25              | -20                  | -15      | -10        | GB/T3535    |  |  |  |
| Foam Tendency(foam stability), ml/ml<br>24°C, ml/ml <<br>93.5°C, ml/ml <<br>Second Time 24°C, ml/ml < |              |              |                  | 10/0<br>20/0<br>10/0 |          |            | GB/T12579   |  |  |  |

#### CF-4 Diesel engine oil

Description

This product is produced by advanced blending technology with refined base oil and imported high quality compound additives.

Application

Suitable for diesel engines require CF-4 quality grade and below the level, applied to the equipments with heavy duty, high supercharging and high power such as container transport vehicles, construction vehicles, generator sets, large farm equipment, mining and construction engineering equipment.

Quality Grade

CF-4

Viscosity Grade

SAE 15W/40, 20W/50

Technical indicators

| ITEM  | QUALITY STANDARD |                      |             |             |           |            |             |  |
|---|------------------|----------------------|-------------|-------------|-----------|------------|-------------|--|
| I I LIVI  | 5W/30            | 10W/30               | 15W/40      | 20W/40      | 30        | 40         | Test Method |  |
| Viscosity(100°C),mm2/s  | 9.3<12.5         | 9.3<12.5             | 12.5<16.3   | 12.5<16.3   | 9.3-<12.5 | 12.5-<16.3 | GB/T265     |  |
| Low temperature dynamic viscosity (mPa.s) <   | 6600(-30°C)      | 7000(-25°C)          | 7000(-20°C) | 9500(-15°C) | 572       |            | GB/T6538    |  |
| Flash piont (open-cup) , C ≥  | 200              | 205                  | 215         | 215         | 220       | 225        | GB/T3536    |  |
| Pour point, °C≤   | -35              | -30                  | -25         | -20         | -15       | -10        | GB/T3535    |  |
| $\begin{array}{c} Foam\ Tendency(foam\ stability),\ \ ml/ml\\ 24 C\ ,\ \ ml/ml \leqslant\\ 93.5 C\ ,\ \ ml/ml \leqslant\\ Second\ Time\ 24 C\ ,\ \ ml/ml \leqslant\\ \end{array}$ |                  | 20/0<br>50/0<br>20/0 |             |             |           |            |             |  |



## Dual fuel engine oils



#### Dual-Fuel gasoline Engine Oil

Description

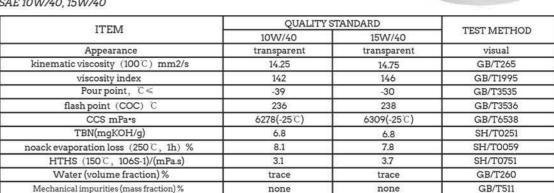
This product is produced by advanced blending technology with premium base oil and high quality low ash compound additives which specially designed for CNG, LPG gasoline engine.

Application

Apply to LPG/CNG single fuel engines and LPG or CNG dual-fuel engines.

Quality Grade SG, SJ

Viscosity Grade SAE 10W/40, 15W/40



0.91

0.91

## Dual-Fuel Diesel Engine Oil

Sulphate ash (m/m) %

Description

This product is produced by advanced blending technology with high quality base oil and low ash additives specially designed for LPG diesel

Application

Apply to engine lubrication for LPG-fueled diesel engine or dual-fuel diesel engines, meeting lubrication requirements of LPG engine made by Weichai, Yuchai, and Dongfeng companies etc.

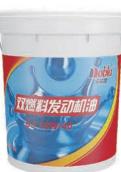
Quality Grade

CH-4, CI-4

Viscosity Grade

SAE 10W/40, 15W/40, 20W/40





GB/T2433



## Vehicle Gear Oils

#### GL-5+ Long-term maintenance-free gear oil

Description

This product is produced by advanced blending technology with imported semi-synthetic base oil and high quality compound additives.

Application

Apply to all types of trucks, commercial vehicles, particularly for hyperbolic gear rear axle lubrication system in heavy-duty vehicles.

Quality Grade

SAE 80W/90, 85W/90, 85W/140 Viscosity Grade



| ITEM                                      | (      | QUALITY STANDAR | D       | TEST METHOD |
|---|--------|-----------------|---------|-------------|
| II EIVI                                   | 80W/90 | 85W/90          | 85W/140 | 1EST METHOD |
| Viscosity(100°C),mm2/s                    | 15.41  | 15.52           | 29.32   | GB/T 265    |
| Pour point, ℃≤                            | -30    | -18             | -12     | GB/T3535    |
| flash point C                             | 232    | 238             | 242     | GB/T3536    |
| Apparent viscosity 150 Pa.s temperature C | -26    | -12             | -12     | GB/T11145   |
| Foam Tendency (93.5°C) ml                 | 10/0   | 10/0            | 10/0    | GB/T12579   |
| Rust test, copper plate, grade            | 1b     | 1b              | 1b      | GB/T5096    |
| Water %                                   | none   | none            | none    | GB/T2607    |
| Mechanical impurities (mass fraction) %   | none   | none            | none    | GB/T511     |

#### GL-5 Heavy duty Gear Oil

Description

This product is produced by advanced blending technology with imported refined high viscosity index base oil and imported sulfur-phosphorous type multifunctional compound additives.

Application

Apply to all types of trucks, commercial vehicles, particularly for hyperbolic gear rear axle lubrication system in heavy-duty vehicles.

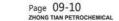
Quality Grade

Viscosity Grade

SAE 80W/90, 85W/90, 85W/140

Technical indicators

| ITEM  |      | - 22                 | QUALITY S | STANDARD  |           |           |  |  |
|---|------|----------------------|-----------|-----------|-----------|-----------|--|--|
| II EIVI   | 75W  | 80W/90               | 85W/90    | 85W/140   | 90        | 140       |  |  |
| Viscosity(100°C),mm2/s  | ≥4.1 | 13.5-24.0            | 13.5-24.0 | 24.0-41.0 | 13.5-24.0 | 24.0-41.0 |  |  |
| Apparent viscosity150 Pa.s temperature C ≤  | -40  | -26                  | -12       | -12       | -         | -         |  |  |
| Flash piont (open-cup) , C ≥  | 150  | 165                  | 165       | 180       | 180       | 200       |  |  |
| Ditch point C≤  | -45  | -35                  | -20       | -20       | -17.8     | -6.7      |  |  |
| Viscosity index   | S-8  | (A)                  | ×         |           | 75        | 75        |  |  |
| Foam Tendency(foam stability), ml/ml<br>24°C, ml/ml <<br>93.5°C, ml/ml <<br>Second Time 24°C, ml/ml < |      | 20/0<br>50/0<br>20/0 |           |           |           |           |  |  |
| Rust Test (Copper plate, 121 C, 3h, grade)  |      |                      | 3         |           |           |           |  |  |



## **Transmission Oils**

#### Automatic Transmission Fluid

Description

This product is produced by advanced blending technology with imported synthetic base oil and imported efficient compound additives.

Application

Suitable for automatic transmission system, power steering system, hydraulic transmission and construction machinery automatic transmission system and other hydraulic system.

Quality Grade DEX-II . DEX-VI Technical indicators



| ITEM                 | QUALITYS | QUALITY STANDARD |             |  |
|----------------------|----------|------------------|-------------|--|
| I I EIVI             | DEX-Ⅲ    | DEX-V            | TEST METHOD |  |
| KV@40°C, cst         | 36.18    | 30.24            | ASTM D445   |  |
| KV@100℃, cst         | 7.10     | 5.95             | ASTM D445   |  |
| Visconsity Index     | 163      | 147              | ASTM D2270  |  |
| Brookfield@-40°C, cp | 14975    | 10820            | ASTM D2983  |  |
| Flash point@COC, C   | 224      | 220              | ASTM D92    |  |
| Pour point, C        | -45      | -54              | ASTM D97    |  |



#### HA Hydraulic Transmission Oil

Description

This product is produced by advanced blending technology with refined high viscosity index imported base oil and imported high quality efficient functional compound additives.

Application

Suitable for imported and homemade cars and light buses hydraulic transmission systems and other equipments need for hydraulic

Quality Grade HA

Viscosity Grade 6#, 8# Technical indicators



| ITEM                                       | QUALITYS | STANDARD |
|--|----------|----------|
| I I EIVI                                   | 6#       | 8#       |
| KV@100℃, cst                               | 5.0-7.0  | 7.5-9.0  |
| Visconsity Index ≥                         | 90       | 90       |
| Flash point@COC, C ≥                       | 180      | 190      |
| Pour point, C <                            | -25      | -20      |
| Rust Test (Copper plate, 121°C, 3h, grade) | pass     | pass     |
| maximum nonseizure load, PB, N ≥           | 784.5    | 784.5    |



#### Marine oils

#### High-speed Marine Diesel Engine Oil

This product is produced by advanced blending technology with high quality hydrogenation base oil and imported premium additives, which meets the demands of marine diesel engines at high-speed.

Application

Suitable for a variety of heavy-duty, high supercharging generator sets, lifeboats, emergency generators and other small vessels mainframe at high-speed.

Quality Grade

CH-4, CF-4

Technical indicators



| ITEM                              | DA           | TA           | TIPOT METILIOD    |
|-----------------------------------|--------------|--------------|-------------------|
| I I EIVI                          | 15W-40       | 20w-50       | TEST METHOD       |
| Appearance                        | Transparency | Transparency | Visual inspection |
| kinematic viscosity100°C) mm2/s   | 14.75        | 18.57        | GB/T265           |
| viscosity                         | 146          | 134          | GB/T1995          |
| Pour point C                      | -30          | -24          | GB/T3535          |
| Flash point (open) C              | 238          | 258          | GB/T3536          |
| CCS mPa*s                         | 6309(-25°C)  | 8712(-15°C)  | GB/T6538          |
| TBN(mgKOH/g)                      | 10.8         | 10.8         | SH/T0251          |
| Loss of evaporation (250°C, 1h) % | 7.8          | 7.0          | SH/T0059          |
| HTHS (150°C, 106S-1)/(mPa.s)      | 3.7          | 3.7          | SH/T0751          |
| water%                            | trace        | trace        | GB/T260           |
| mechanical impurities %           | none         | none         | GB/T511           |

# Medium Speed Marine Diesel Engine Oil

water%

mechanical impurities %

Description

This product is produced by advanced blending technology with paraffinic mineral base oil and selected various high-performance additives. This product is trunk piston diesel marine engine oil with high

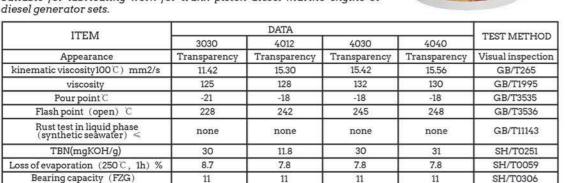
performance and high base number. It is with performance of good acid neutralize properties and clean dispersion, meeting the requirements of marine engine with high-sulfur fuel.

Application

Suitable for lubricating work for trunk piston diesel marine engine or

trace

none



trace

none

trace

none

none

GB/T260 GB/T511



## **Industrial Equipment Oils**

#### Industrial Gear Oil

Description

This product is produced by advanced blending technology with refined mineral base oil and various functional additives. Excellent carrying capacity ensures smooth operation for heavy duty gear, reducing the tooth surface scratches and operating noise.

Application

Suitable for spur gears, helical gears, spiral bevel gears, bearings or circulating lubrication system such as metallurgy, cement, electric, mining, rubber& plastic, fertilizers, coal with very harsh working

CKC, CKD

Quality Grade

68# 100# 150# 220# 320# 460#

Technical indicators

| ITEM                           | QUALITY STANDARD |        |         |         |         |         |  |  |  |  |
|--------------------------------|------------------|--------|---------|---------|---------|---------|--|--|--|--|
| I I EIVI                       | 68#              | 100#   | 150#    | 220#    | 320#    |         |  |  |  |  |
| kinematic viscosity(40°C)mm²/s | 61.2-74.8        | 90-110 | 135-165 | 198-242 | 288-352 | 414-506 |  |  |  |  |
| flash point ≥ (open) , ℃       | 180              | 180    | 200     | 200     | 200     |         |  |  |  |  |
| moisture %                     | trace            | trace  | trace   | trace   | trace   |         |  |  |  |  |
| Pour point ≤                   | -8               | -8     | -8      | -8      | -8      |         |  |  |  |  |

#### Full synthetic heavy duty industrial gear oil

Based on synthetic oil, the product is prepared by adding various functional additives such as extreme pressure and anti-wear.

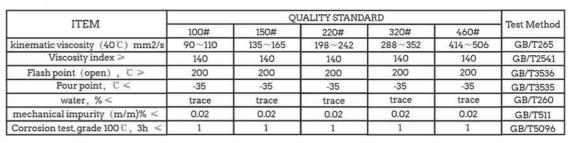
Application

It is suitable for all kinds of heavy duty industrial gear sets and other gears which can easily cause vibration load, as well as for circulatory system and sputtering lubrication system.

Quality Grade

Viscosity Grade

100#, 150#, 220#, 320#, 460#









### Anti-wear hydraulic oil

Description

This product is produced by advanced blending technology with imported hydrogenation high viscosity index base oil and imported multi-functional

Application

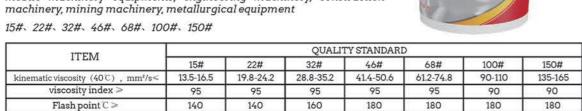
widely used in high-pressure hydraulic systems such as industrial, marine, mobile machinery equipments, engineering machinery, construction

-18

Viscosity Grade

Pour point, ℃<

Technical indicators



-15

-9

-9

-9

-9

-15

#### Multi-grade hydraulic oil

Description

The product is produced by advanced blending technology with synthetic base oil and imported multi-functional additives.

Application

Particularly suitable for machinery outdoor work at cold areas in winter, temperature changes sharply or harsh conditions, good for medium or high pressure hydraulic system such as engineering machinery, construction machinery, mining machinery, oil field machinery, marine, vehicles etc.

Viscosity Grade

10#、15#、22#、32#

| ITEM   |          | MDOM & ADMITOD |           |         |             |
|--|----------|----------------|-----------|---------|-------------|
| I I EIVI   | 10       | 15             | 22        | 32      | TEST METHOD |
| kinematic viscosity100°C) mm2/s                  | 9.0~11.0 | 13.5~16.5      | 19.8~24.2 | 15.56   | GB/T265     |
| viscosity index ≥                                | 130      | 130            | 168       | 179     | GB/T1995    |
| Flash point (open) C                             | 175      | 185            | 195       | 205     | GB/T3536    |
| Pour point C                                     | -50      | -57            | -55       | -55     | GB/T3535    |
| Rust (copper100°C, 3h)                           | 1        | 1              | 1         | 1       | GB/T5096    |
| Rust test in liquid phase (synthetic seawater) < | No Rust  | No Rust        | No Rust   | No Rust | GB/T11143   |
| water (m/m) %                                    | trace    | trace          | trace     | trace   | GB/T260     |
| mechanical impurity (m/m) %                      | none     | none           | none      | none    | GB/T511     |

Page 13-14

#### Freezer Oil

Description

This product is produced by advanced blending technology with naphthenic base oil and high quality acid-free additives.

Application

Suitable for motion of refrigerant, and refrigeration compressor of car air conditioning with new refrigerant R134a technology. Also applicable in the same kind of household air conditioners, refrigerators, refrigeration compressors. Applying to industrial screw machine, centrifuge with R134a refrigerant technology.

Viscosity Grade

22#、32#、46#、68#、100#、150#、220#、320#

Technical indicators

| ITEM                              | QUALITY STANDARD |           |           |           |        |         |        |         |                |  |
|-----------------------------------|------------------|-----------|-----------|-----------|--------|---------|--------|---------|----------------|--|
| I I EIVI                          | 15#              | 32#       | 46#       | 68#       | 100#   | 150#    | 220#   | 320#    | Test<br>method |  |
| kinematic viscosity (40°C), mm²/s | 19.8-24.2        | 28.8-35.2 | 41.4-50.6 | 61.2-74.8 | 90-110 | 135-165 | 98-242 | 288-352 | GB/T265        |  |
| flash point ≥ (open) , C          | 150              | 160       | 160       | 170       | 170    | 210     | 225    | 225     | GB/T3536       |  |
| Flash point C≥                    | -35              | -30       | -30       | -25       | -20    | -10     | -10    | -10     | GB/T3535       |  |

#### Rotary air compressor oil

Description

The product is produced by advanced blending technology with hydrogenation refined base oil and high quality imported additives.

Application

Suitable for the lubrication of rotary air compressor.

DAG is suitable for light duty conditions with exhaust pressure < 0.8mPa and exhaust temperature < 100°C.

DAH is suitable for middle duty conditions with exhaust pressure between 0.8-1.5mPa and exhaust temperature ≤ 100°C.

DAJ is suitable for heavy duty conditions with exhaust pressure < 0.8mPa

and exhaust temperature >110°C .

Quality Grade

DAG, DAH, DAJ

Viscosity Grade

SAE 15, 22, 32, 46, 68, 100

| ITEM                                     |    | DATA |     |       |    |      |                    |  |   |    |    |    |     |    |        |  |  |  |
|--|----|------|-----|-------|----|------|--------------------|--|---|----|----|----|-----|----|--------|--|--|--|
| I I EIVI                                 |    |      | DAG | G     |    |      |                    |  | D | AH |    |    | DAJ |    |        |  |  |  |
| kinematic viscosity                      | 15 | 22   | 32  | 46    | 68 | 100  | 15 22 32 46 68 100 |  |   |    | 15 | 22 | 32  | 46 | 68 100 |  |  |  |
| Viscosity<br>INEDX                       |    |      | 9   | 0     |    |      | 90                 |  |   |    |    | 90 |     |    |        |  |  |  |
| Pour<br>point C                          |    |      | _9  | 7     |    |      | -9                 |  |   |    |    | -9 |     |    |        |  |  |  |
| Rust test<br>(100 C , 3h)<br>grade       |    |      | 11  | b     | 2  |      | 1b                 |  |   |    | 1b |    |     |    |        |  |  |  |
| Demulsibility<br>temp/C                  |    | 54   |     | 54 82 |    | 54 8 |                    |  | 2 |    | 5  | 54 |     | 8  | 2      |  |  |  |
| time of<br>emulsion<br>layer≤<br>3ml/min |    | 3    | 0   |       | 3  | 10   | 30 30              |  |   |    | 3  | 0  |     | 3  | 0      |  |  |  |





www.ahztsh.com Page 15-16

## Rust-proof Metal Working oils

#### Multi-effect rust resistance cutting fluid

Description This product is microemulsion cutting fluid without any nitrite or phenol and other substances harmful to environment and human; Excellent performance in tramp oil resistance, rust proof and extreme pressure, operational stability and anti-microbial.

Application Suitable for ferrous metal cutting and grinding such as cast iron and carbon steel. 3-5% concentration is recommended for light cutting and grinding, 5% for general cutting and grinding, 7-10% for medium to heavy-duty cutting and grinding.

| ITEM                              | QUALITY INDEX             |
|-----------------------------------|---------------------------|
| Appearance(concentrated solution) | Transparent yellow liquid |
| PH(5%diluent)                     | 7.5-9.5                   |
| surface tension 25°C mN/m         | 38                        |

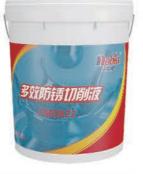


This product is fully synthetic cutting fluid without any nitrite or phenol and other substances harmful to environment and human; anti-foaming, easy to clean and usage stability.

Application

Applicable to all kinds of ferrous metal working such as honing, milling, turning, boring, drilling, tapping and hobbing, milling and reaming; Also suitable for surface grinding, cylindrical grinding, double-disc single side grinding, internal grinding and centerless grinding;

| ITEM                                      | QUALITY INDEX  | TESTING METHOD    |
|---|--|-------------------|
| appearance                                | Uniform liquid, without stratification and precipitation | Visual inspection |
| transparency                              | transparent liquid                                       | GB/T6144-2010-5.2 |
| PH (5%;Liquid)                            | 9.5  | GB/T6144-2010-5.3 |
| TBN mgKOH/g                               | 102.5  | GB/T4945          |
| Rust proof test of cast iron filings (2h) | No rust  | IP287             |
| PB/N                                      | 549  | GB/T3142          |
| NO2-concentration detection               | none   | GB/T6144-2010-5.8 |



#### Stamping Oil

The product is produced with blending technology by refined mineral base oil and additives with extreme pressure and rust resistance.

Applicable to stamping and molding process in all types of automotive parts; also used for stamping and molding for carbon steel and stainless steel plate. Rust resistance treatment relieves between process and

| ITEM                              | QUALITY INDEX  |
|-----------------------------------|----------------|
| Appearance                        | Dark brown oil |
| Flash point °C ≥                  | 165            |
| kinematic viscosity (40°C), mm²/s | 15-30          |



#### Water film displacement anti-rust oil

It's a new type of rust-proof oil, can remove residual directly after metal parts cleaned by aqueous cleaning. Once the workpiece immersed in oil, cleaning residue will be very quick removed.

Application

It's suitable for steel and copper rust-proof, phosphating and blackening in short-term storage.

Also be used in rust-proof treatment for processes. Rust-proof life is 3

| ITEM                              | QUALITY INDEX       |  |  |
|-----------------------------------|---------------------|--|--|
| Appearance                        | Tan transparent oil |  |  |
| Flash point ℃ >                   | 40                  |  |  |
| kinematic viscosity (40°C), mm²/s | 2.5-4.5             |  |  |
| Rust test (55±2°C, 7d) ) grade    | 0                   |  |  |
| Damp heat test(49±1°C)            | 15                  |  |  |



#### Long-term storage rust oil

Description

The product is produced with advanced blending technology with refined mineral base oil and compound rust-proof additives.

Application

Applicable to rust proof works for metal products at middle and long-term storage. Storage time is up to two years.

| ITEM                              | QUALITY INDEX       |  |  |
|-----------------------------------|---------------------|--|--|
| Appearance                        | Tan transparent oil |  |  |
| Flash point °C ≥                  | 110                 |  |  |
| kinematic viscosity (40°C), mm²/s | 25-35               |  |  |
| Rust test (55±2°C, 7d) ) grade    | 0                   |  |  |
| Damp heat test(49±1°C)            | 30                  |  |  |





STATE OF THE PARTY.



# LUBRICATING GREASES >



## **Vehicle Grease**

#### Multipurpose lithium base grease for automobile

Description

This product is made from complex soap thickened superior mineral base oil, added with variety of extreme pressure and anti-wear additives.

Application

This product is suitable for a variety of automotive wheel hubs, chassis, motors, pumps and other parts of the lubrication of friction, and is widely used in lubricating friction parts, such as rolling bearings, plain bearings etc.

Consistency Level

2#、3#

-30 °C ~ 120 °C

Operating temperature

.

| ITEM  | QUALITY INDEX                     | TESTING METHOD |  |
|---|-----------------------------------|----------------|--|
| Working penetration /0.1mm  | 265-295                           | GB/T269        |  |
| Drop point≥   | 180                               | GB/T 4929      |  |
| Corrosion (T2 copper sheet 100 ℃,24h)≤                                      | No green or<br>black color change | GB/T7326       |  |
| Steel wire mesh oil(100 ℃,30h)%<  | 5.0                               | GB/T 0324      |  |
| Evaporation capacity(99°C,22h)% <   | 2.0                               | GB/T 7325      |  |
| Impurity By Microscope /(pcs/cm3 ) >10um ≤ >25um ≤ >75um ≤ >75um ≤ >125um ≤ | 5000<br>3000<br>500<br>0          | SH/T0336       |  |
| Oxidation stability 99°C,100h,0.770Mpa≤                                     | 0.070                             | SH/T0325       |  |



#### Construction machinery grease

Description

This product is made from high-class fatty acid lithium soap thickened mineral base oil. It is a multi-efficiency, long-life grease. We produce it according to heavy machinery's characteristics of heavy mechanical loads and long working hours. We do a lot of experiments of anti-wear, high temperature resistance, and water resistance, and it shows high energy efficiency and excellent stability.

Application

This product is suitable for all kinds of heavy construction machinery, such as excavators, bulldozers, rollers, Scraper, forklift truck, dump truck, mixer, crane, paving machine.

Consistency Level

1#、2#、3#

Operating temperature

-30 °C ~ 120 °C

| Imma /  | QUALIT                   | Y INDEX                  | TESTING   |
|---|--------------------------|--------------------------|-----------|
| ITEM  | 2#                       | 3#                       | METHOD    |
| Working penetration /0.1mm  | 265-295                  | 220-250                  | GB/T269   |
| Drop point>   | 150                      | 160                      | GB/T 4929 |
| Corrosion (T2 copper sheet 100 ℃,24h)≤                              | qualified                | qualified                | GB/T 7326 |
| Steel wire mesh oil(100°C,30h)% <                                   | 5.0                      | 5.0                      | GB/T 0324 |
| Evaporation capacity(99°C,22h)% <                                   | 2.0                      | 2.0                      | GB/T 7325 |
| Impurity By Microscope /(pcs/cm3 ) >10um ≤ >25um ≤ >75um ≤ >125um ≤ | 5000<br>3000<br>500<br>0 | 5000<br>3000<br>500<br>0 | SH/T0336  |
| Anti-corrosion Characteristic (52℃, 48h) <                          | 1.0                      | 1.0                      | SH/T5018  |



#### Page 19-20 ZHONG TIAN PETROCHEMICA

#### Heavy Vehicle Wheel Hub Grease

Description

This product is made from complex soap thickened high quality base oil, added with a variety of advanced additives.

Application

This product is special for Hub bearing of medium-sized/heavy-duty vehicle, and High-speed passenger cars in harsh working environments., but also suitable for other special machinery bearing in high temperature, heavy-duty, water washout and wet working environment.

Consistency Level

ncy 2# 3#

Operating temperature

-30 °C ~ 220 °C

Technical indicators

| ITEM                                    | QUALITY INDEX | TESTING METHOD |
|---|---------------|----------------|
| Working penetration /0.1mm              | 220-250       | GB/T269        |
| Drop point>                             | 300           | GB/T 4929      |
| Corrosion (T2 copper sheet 100 ℃,24h) < | z             | GB/T7326       |
| Steel wire mesh oil(100 ℃,30h)%≤        | 3.0           | GB/T 0324      |
| Evaporation capacity(99℃,22h)%≤         | 2.0           | GB/T 7325      |
| Oxidation stability99°C,100h,0.770Mpa < | 0.070         | SH/T 0325      |
| Fluid loss(38 ℃,1h) ≤                   | 10            | SH/T 0109      |



#### Automotive CVJ grease

Description

This product is made from complex soap thickened superior mineral base oil, added with variety of extreme pressure and anti-wear additives.

Application

This product is suitable for lubricating constant velocity joints and friction parts of other heavy machinery and equipment.

Consistency Level

2#

Operating temperature

-40°C ~ 120°C

Technical indicators

| ITEM                                     | QUALITY INDEX | TESTING METHOD |
|--|---------------|----------------|
| Working penetration /0.1mm               | 265-295       | GB/T269        |
| Drop point≥                              | 190           | GB/T 4929      |
| Corrosion (T2 copper sheet 100 °C,24h) < | ¥8            | GB/T 7326      |
| Steel wire mesh oil(100°€,30h)%≤         | 2.8           | GB/T 0324      |
| Evaporation capacity (99℃,22h)% <        | 2.0           | GB/T 7325      |



#### Concrete pump truck grease

Description

This product is made from higher fatty acid lithium soap thickened refined mineral base oil, added with a special additives.

Application

This product is suitable for centralized lubrication system of concrete pump, trailers, gear, heavy-duty gear case and other large machinery and equipment.

Consistency Level

000 #, 00 #, 0 #

Operating temperature

-20°C ~ 120°C

Technical indicators

| ITEM  | QU                       | TESTING                  |                          |           |
|---|--------------------------|--------------------------|--------------------------|-----------|
|   | 0#                       | 00#                      | 000#                     | METHOD    |
| Working penetration /0.1mm  | 355-385                  | 400-430                  | 445-475                  | GB/T269   |
| Drop point≥   | 160                      | 150                      | 140                      | GB/T 4929 |
| Corrosion (T45 copper sheet 100 ℃,24h)≤                                     | qualified                | qualified                | qualified                | GB/T 7326 |
| Impurity By Microscope /(pcs/cm3 ) >10um < >25um < >25um < >75um < >125um < | 5000<br>3000<br>500<br>0 | 5000<br>3000<br>500<br>0 | 5000<br>3000<br>500<br>0 | SH/T0336  |
| Anti-corrosion Characteristic (52 € ,48h) ≤                                 | 1.0                      | 1.0                      | 1.0                      | SH/T5018  |



# **General Purpose Grease**

#### High-temperature grease

Description

This product is made from complex metal soap thickened refined mineral base oil, added with extreme pressure anti-wear agents, antioxidants and antirust agent.

Application

This product is suitable for lubricating the friction parts of large heavy-duty trucks, high-speed car, metallurgical industry, continuous casting machines, rolling mill, sintering machine, a steel roller and printing, large motors, rubber/plastic hot rolling mill, cement industry, kiln cars and other high-temperature, heavy load machinery and equipment.

Consistency Level

**y** 3#

Operating temperature

-30 °C ~ 200 °C.

Technical indicators

| ITEM                                      | QUALITY INDEX                        | TESTING METHOI |
|---|--------------------------------------|----------------|
| Working penetration /0.1mm                | 220-250                              | GB/T269        |
| Drop point≥                               | 280                                  | GB/T 4929      |
| Corrosion (T2 copper sheet 100 ℃,24h)≤    | Copper no black or<br>green changing | GB/T7326       |
| Steel wire mesh oil(100 ℃,30h)%≤          | 5.0                                  | GB/T 0324      |
| Evaporation capacity(99°C,22h)% <         | 2.0                                  | GB/T 7325      |
| extreme pressure (four-ball method)PD,N ≥ | 3389                                 | SH/T 0202      |
| ZMZ, N>                                   | 441                                  | 317/10202      |
| Oxidation stability 99°C,100h,0.770Mpa <  | 0.070                                | SH/T 0325      |
| Water washout (38℃,1h)%≤                  | 10                                   | SH/T 0109      |
| Leakage amount(104℃,6h)%≤                 | 2.5                                  | SH/T 0326      |
| Anti-corrosion (52°C,48h)grade            | 2                                    | SH/T 5018      |



#### Extreme pressure Lithium-base grease

Description

This product is made from twelve hydroxy acid lithium soap thickened superior high viscosity mineral base oil, added with a variety of additives.

Application

This product is suitable for lubricating heavy-duty gear and bearing of steel rolling machinery, mining machinery, construction machinery, heavy lifting machinery, injection molding machinery etc, and applies to impact load components and centralized lubrication systems.

Consistency Level 1#,2#,3#

Operating temperature

-20 °C ~ 120 °C

| ITEM  | QU                       | QUALITY INDEX            |                          |                   |  |
|---|--------------------------|--------------------------|--------------------------|-------------------|--|
|   | 1#                       | 2#                       | 3#                       | TESTING<br>METHOD |  |
| Working penetration /0.1mm  | 310-340                  | 265-295                  | 220-250                  | GB/ T269          |  |
| Drop point≥   | 170                      | 175                      | 180                      | GB/T 4929         |  |
| Corrosion (T2 copper sheet 100 ℃,24h)<                                      | qualified                | qualified                | qualified                | GB/T 7326         |  |
| Steel Wire Mesh Oil Separation(100 °C,30h)/% <                              | 5.0                      | 5.0                      | 5.0                      | SH/T 0324         |  |
| Evaporation Capacity(99°C,22h)/% <  | 2.0                      | 2.0                      | 2.0                      | GB/T 7325         |  |
| Impurity By Microscope /(pcs/cm3 ) >10um < >25um < >25um < >75um < >125um < | 5000<br>3000<br>500<br>0 | 5000<br>3000<br>500<br>0 | 5000<br>3000<br>500<br>0 | SH/T0336          |  |
| Oxidation stability 99°C,100h,0.770Mpa <                                    | 0.070                    | 0.070                    | 0.070                    | SH/T0325          |  |
| Leakage amount(104℃,6h)%≤   | 5.0                      | 5.0                      | 5.0                      | SH/T0326          |  |
| Anti-corrosion Characteristic (52 °C,48h) <                                 | 1.0                      | 1.0                      | 1.0                      | GB/T5018          |  |
| Water washout (38 ℃,1h)%≤   | 10                       | 10                       | 10                       | SH/T0109          |  |



#### Polturea-based grease

Description

This product is made of Polturea-based thickener and special base oil.

Application

This product is used in lubrication of metallurgy, mining and other types of machinery and equipment, especially for lubricating rolling and plain bearings of metallurgical equipment (such as continuous casting machines, rolling mills, etc.) at a high temperature, heavy-duty, water spray and other harsh conditions.

Consistency Level

-20 °C ~ 220 °C

| ITEM                                       | QU.       | TESTING   |           |                   |
|--|-----------|-----------|-----------|-------------------|
| I I EIVI                                   | 1#        | 2#        | 3#        | TESTING<br>METHOD |
| Working penetration /0.1mm                 | 310-340   | 265-295   | 220-250   | GB/T269           |
| Drop point≥                                | 270       | 280       | 300       | GB/T 4929         |
| Corrosion (T2 copper sheet 100 °C,24h) <   | qualified | qualified | qualified | GB/T 7326         |
| Oxidation stability 99°C,100h,0.770Mpa <   | 0.023     | 0.023     | 0.023     | SH/T0325          |
| Anti-corrosion Characteristic (52 ℃,48h) < | 1.0       | 1.0       | 1,0       | GB/T5018          |
| extreme pressure (four-ball method) PB,N>  | 785       | 785       | 785       | SH/T 0202         |
| ash content                                | 0.23      | 0.23      | 0.23      | SH/T0326          |



#### Ultra-high temperature grease

Description

This product is a fully synthetic grease made of superior synthetic oil thickened by inorganic thickener, added with a large number of solid lubricant and extreme-pressure additive and high temperature anti-oxidation additives.

Application

This product is mainly used for lubricating bearings and friction parts of heavy-duty equipments in industries of cement, ceramics, glass, textiles, metallurgy, etc. Such as kiln car bearings, chains and baking equipment, door gear. It can also be used on the drying mechanism.

Consistency Level

600°C

Operating temperature

| ITEM                                   | QUALITY INDEX                        | TESTING METHOD |
|--|--------------------------------------|----------------|
| Working penetration /0.1mm             | 265-295                              | GB/ T269       |
| Drop point>                            | None                                 | GB/T 4929      |
| Corrosion (T2 copper sheet 100 ℃,24h)≤ | Copper no black or<br>green changing | GB/T 7326      |
| Steel wire mesh oil(100℃,30h)%≤        | 1.0                                  | GB/T 0324      |



福满乾坤 润泽天下

聚脲基润滑脂



#### Wide temperature grease

Description

This product is made from complex soap thickened synthetic oil, added with the antioxidant, rust and other additives.

Application

This product is suitable for lubricating rolling, sliding bearings and chains, gear of industrial equipment and vehicle in cold or hot area, such as railway electric locomotive tractor, aero dynamo, clutch bearing, heavy-duty vehicle, high-speed racing car, wheel hub bearing of high temperature turbine, mechanical bearing of flame cutting machine, oven,

0#,1#,2#

Operating temperature

-50 °C ~ 200 °C

Technical indicators

| TITTED A  | QU                            | QUALITY INDEX            |                          |                   |
|---|-------------------------------|--------------------------|--------------------------|-------------------|
| ITEM  | 0#                            | 1#                       | 2#                       | TESTING<br>METHOD |
| Appearance  | yellowish white-orange yellow |                          | visual test              |                   |
| Working penetration /0.1mm  | 355-385                       | 310-340                  | 265-295                  | GB/T269           |
| Drop point>   | 250                           | 260                      | 260                      | GB/T 4929         |
| Corrosion (T2 copper sheet 100 °C,24h) <  | qualified                     | qualified                | qualified                | GB/T 7326         |
| Steel Wire Mesh Oil Separation(100 C,24h)/% <                                   | 6.0                           | 6.0                      | 5.0                      | SH/T0324          |
| Impurity By Microscope /(pcs/cm3 )<br>>10um <<br>>25um <<br>>75um <<br>>125um < | 5000<br>3000<br>500<br>0      | 5000<br>3000<br>500<br>0 | 5000<br>3000<br>500<br>0 | SH/T0336          |
| Oxidation stability 99 C,100h,0.770Mpa <  | 0.05                          | 0.05                     | 0.05                     | SH/T0325          |
| Similar Viscosity (-30°C,10s-1) /Pa.s <   | 800                           | 1200                     | 1800                     | SH/T0049          |
| Evaporation Capacity(150°C,1h),% (m/m) <  | 3.0                           | 3.0                      | 3.0                      | GB/T7325          |
| Water washout (38 ℃,1h)%≤   | 6.0                           | 6.0                      | 5.0                      | SH/T0109          |



# **Industrial Equipment Grease**

#### Rolling mill bearing grease

Description

This product is made of imported high-viscosity base oil thickened by new complex thickener, added with additives of anti-wear, extreme pressure, anti-oxidation, anti-rust etc.

Application

This product is suitable for lubricating roller bearings of rolling mill in metallurgical industry, especially for roll bearings of hot rolling mill and continuous rolling mill.

Consistency Level

2#,3#

Operating temperature

-30 °C ~ 120 °C



|  | QUALIT      | Y INDEX     | TESTING   |  |
|--|-------------|-------------|-----------|--|
| ITEM   | 2#          | 3#          | METHOD    |  |
| Working Penetration /0.1mm                       | 265-295     | 220-250     | GB/T269   |  |
| Drop point≥                                      | 300         | 300         | GB/T3498  |  |
| Corrosion (T2 copper sheet 100 ℃,24h)≤           | qualified   | qualified   | GB/T 7326 |  |
| Steel Wire Mesh Oil Separation(100 °C,24h)/% <   | 1.5         | 0.8         | SH/T0324  |  |
| Water washout (38 ℃,1h)%≤                        | 2.4         | 0.75        | SH/T0109  |  |
| extreme pressure(Timken method)ok,N≥             | 178         | 178         | SH/T 0203 |  |
| extreme pressure (four-ball method) PB,N≥ ZMZ,N≥ | 3923<br>561 | 4904<br>661 | SH/T 0202 |  |



### Charging roller table grease

Description

The product is made from the most advanced polyurea thickened synthetic base oils, plus a variety of additives and high temperature ultra-fine solid additives through special process.

Application

This is suitable for lubricating various charging roller table bearings, conveyor roller, pushing steel machine bearing of metallurgical rolling system. It is also suitable for lubricating heavy-duty roller bearings and other high-temperature heavy-duty bearings of hot rolling mill, gears and transmission mechanism.

Consistency Level

1#, 2#

-30 °C ~ 200 °C

Operating temperature

| ITEM   | QUALITY INDEX      | TESTING METHOD |
|--|--------------------|----------------|
| Drop point≥                                      | 300                | GB/T3498       |
| Corrosion (T2 copper sheet 100 ℃,24h)≤           | qualified          | GB/T 7326      |
| Steel Wire Mesh Oil Separation(100 °C,24h)/% <   | 5.0                | SH/T0324       |
| Evaporation Capacity(250°C),% (m/m) <            | 10                 | SH/T 0337      |
| extreme pressure (four-ball method) PB.N> PD.N>  | 110*9.8<br>410*9.8 | SH/T 0202      |
| Water washout (38 ℃,1h)%≤                        | 0.76               | SH/T 0109      |
| roller stability (25°C,2h), change value 0.1mm < | 8                  | SH/T 0122-92   |



# Heavy-duty open gear grease

Description

This product is made from high viscosity base oil with new polyurea-based thickener, adhesive additives and solid lubricant additives.

Application

This product is mainly used in lubricating open gears, gear tray, rack and chain drive mechanism of construction machinery in metallurgy, mining. It is also suitable for many kinds of hinges, slides and ropes.

Consistency Level

o#, 00#, 000#

Operating temperature

-30 C ~ 180 C

Technical indicators

|   | QU          | TESTING     |              |            |
|---|-------------|-------------|--------------|------------|
| ITEM  | 000#        | 00#         | 0#           | METHOD     |
| Drop point≥                                     | 220         | 230         | 240          | GB/T 4929  |
| Corrosion (45# steel sheet 100 ℃,24h)≤          | qualified   | qualified   | qualified    | GB/T 7326  |
| Oxidation stability 99°C,100h,0.770Mpa <        | 0.5         | 0.4         | 0.3          | SH/T0325   |
| Base oil kinematic viscosity (40°C) mm²/s       | 1000-2000   | 2000-3000   | 3000-4000    | GB/T265-88 |
| extreme pressure (four-ball method) PB,N> PD,N> | 800<br>4000 | 900<br>5000 | 1000<br>6000 | SH/T 0202  |



#### Gear reducer grease

Description

This product is made of higher fatty acid lithium soap thickened mineral base oil, added with additives of extreme pressure, anti-oxidation, anti-rust, etc.

Application

This product is suitable for the lubrication of non-circulating gear reducer.

Consistency Level 0#,00#,000#

-30 °C ~ 120 °C

Operating temperature

Technical

| ITEM   | QUALIT    | TESTING   |              |
|--|-----------|-----------|--------------|
|  | 00#       | 0#        | METHOD       |
| Working Penetration /0.1mm                   | 400-430   | 355-385   | GB/T 4929    |
| Corrosion (T2 copper sheet 100 ℃,24h)≤       | qualified | qualified | GB/T 7326    |
| Oxidation stability 99°C,100h,0.770Mpa <     | 0.058     | 0.039     | SH/T0325     |
| extreme pressure (four-ball method)<br>PD,N≥ | 2452      | 2452      | SH/T 0122-92 |



#### High temperature kiln car grease

Description

This product is made from ureido compounds thickened superior high viscosity mineral base oil, added with additives of antioxidant, anti-rust, anti-wear and extreme pressure.

Application

This product can guarantee the normal lubrication of each operation site of kiln cars in high temperature environment. It is also suitable for lubrication of sintering machinein metallurgical industries.

Consistency Level 2#,3#

Operating temperature

-30 °C ~ 200 °C

Technical

| ITEM                                       | QUALITY INDEX | TESTING METHOD |
|--|---------------|----------------|
| Working Penetration /0.1mm                 | 265-295       | GB/T269        |
| Drop point≥                                | 300           | GB/T3498       |
| Oil seperation-pressure method, %, (m/m) < | 6             | GB/T 392       |
| Evaporation Capacity(250°C),% (m/m) <      | 5             | SH/T 0337      |
| Corrosion (45# steel sheet 100 ℃,3h) ≤     | qualified     | SH/T 0331      |



## **Electrical Appliance Grease**

#### Electrical contact grease

Description

This product is made from special synthetic oil with thickener and conductive additive.

Application

This product is suitable for all engineering maintenance and protection of electrical contacts in weak current engineering. Not only is it suitable for stationary contacts, but also for inserting connectors and smooth adjustment.

Consistency Level

ting

2#

-35 °C ~ 120 °C

Operating temperature

Technical indicators

| ITEM                                    | QUALITY INDEX | TESTING METHOD |
|---|---------------|----------------|
| Appearance                              | White         | visual test    |
| Working Penetration /0.1mm              | 265-295       | GB/T269        |
| Drop point>                             | 160           | GB/T3498       |
| Evaporation Capacity(250°C),% (m/m) <   | 1.0           | GB/T 0337      |
| Corrosion (45# copper sheet 100 ℃,3h) ≤ | qualified     | SH/T 0331      |
| volume resistance (Ω-cm) ≤              | 120           | self testing   |



#### Electrical insulating grease

Description

The product is made from inorganic thickener thickened synthetic oil, added with additives of antioxidant anti-corrosion.

Application

This product is mainly applicable to insulation, sealing and protection of high voltage circuit breakers, and sealing. And it is also suitable for insulation, tamper-evident and lubrication of electrical switches, precision machinery and electrical equipment.

Operating temperature

-45 C ~ 200 C

Technical indicators

| ITEM  | QUALITY INDEX | TESTING METHOD |
|---|---------------|----------------|
| Working Penetration /0.1mm                        | 480-530       | GB/T269        |
| Similar Viscosity (-40 ℃,10s-1) /Pa.s ≤           | 300           | GB/T 0048      |
| Evaporation Capacity(250°C),% (m/m) <             | 2.0           | GB/T 0337      |
| Corrosion (T2 copper sheet 100 ℃,3h) <            | qualified     | SH/T 0331      |
| breakdown voltage (Spacing of 2.5 mm, slab,) kv > | 30            | GB/T 507       |
| Dielectric loss factor(90°C) ≤                    | 0.005         | GB/T 5654      |



### Damping grease

Description

The strains of high-purity inorganic thickener thickening special synthetic oil, and add a variety of additives, oxidation, rust, etc., it is a widely used high-quality damping grease at room temperature.

Application

This product is suitable for damping and silencing of potentiometer adjustment mechanism, applying to the damping and silencing of optical drive, tape recorders, video recorders and other electrical slow start mechanism. Applying to damping and silencing of fully automatic washing machines and other sanitary ware; Applying to damping and non-slip of telescope, camera lenses and other focusing system. Applying to damping and protection of the steering wheel combination switch, instrument pointers reset mechanism.



2#

Operating temperature

-20°C ~ 130°C

Technical

| ITEM                                   | QUALITY INDEX | TESTING METHOD |
|--|---------------|----------------|
| Appearance                             | White         | visual test    |
| Working Penetration /0.1mm             | 260-295       | GB/T269        |
| Drop point≥                            | 250           | GB/T3498       |
| Evaporation Capacity(200 °C),% (m/m) < | 5.0           | GB/T 0337      |
| Similar Viscosity (0 ℃,10s-1) /Pa.s ≤  | 1800          | SH/T 0048      |



# Product Catalogue-----Lubricating Oil

| Series                     |               | Product name  | Quality level (API)                                   | Viscosity grade(SAE)                   | Packaging   |  |
|----------------------------|---------------|---|---|--|-------------|--|
|                            |               | Gasoline engine oil   | SJ. SG  | 5W/30、10W/40、15W/40、20W/50             | 4L、200L     |  |
|                            |               |   | SL  | 5W/30、5W/40、10W/30、10W/40、15W/40       | 4L、200L     |  |
|                            |               |   | SM. SN  | 0W/20\ 0W/30\ 0W/40\ 5W/30\ 5W/40      | 4L、200L     |  |
| A                          | Engine oil    | Diesel engine oil   | CF-4、 CH-4、<br>CI-4、 CJ-4、<br>CK-4/FA-4               | 10W/30、15W/40、20W/50                   | 4L、18L、200L |  |
| utor                       |               | Double fuel engine oil  | SJ. SG. CH-4. CI-4                                    | 10W/40、15W/40、20W/50                   | 4L、18L、200L |  |
| notiv                      |               | Medium-duty<br>automobile gear oi                               | GL-4  | 75W/90、80W/90、85W/90、85W/140           | 4L、18L、200L |  |
| 'e lul                     |               | Heavy-duty<br>automobile gear oi                                | GL-5  | 80W/90、85W/90、85W/140                  | 4L、18L、200L |  |
| Automotive lubricating oil | Gear<br>oil   | Long-term<br>maintenance<br>free gear oil                       | GL-5+   | 80W/90、85W/90、85W/140                  | 4L、18L、200L |  |
| oil                        |               | MTF   | -   | 75W/80、75W/85、75W/90、<br>80W/90、85W/90 | 4L、18L、200L |  |
|                            |               | ATF   | DEX-Ⅲ、DEX-VI  | -                                      | 1L          |  |
|                            | ATF           | TF CVTF   |   |  | 1L          |  |
|                            |               | DCTF  | DCTF  | -                                      | 1L          |  |
|                            |               | Hydrodynamic<br>drive oil                                       | НА  | 6#、8#                                  | 1L          |  |
|                            |               | Anti-wear<br>hydraulic oil                                      | НМ  | 15#、22#、32#、46#、68#、100#、150#          | 18L、200L    |  |
|                            |               | Hydraulic HG 32#、68#  |   | 18L、200L                               |             |  |
|                            |               | Fire-resistant hydraulic oil HFD 32#, 46#, 68#, 100#            |   | 18L、200L                               |             |  |
|                            |               | Multi-grade hydraulic oils HV. HS 15#. 22#. 32#. 46#. 68#. 100# |   | 18L、200L                               |             |  |
|                            |               | Closed industrial gear oil                                      | CKC, CKD  | 68#、100#、150#、220#、320#、460#、680#      | 18L、200L    |  |
|                            |               | Open industrial<br>gear oil                                     | CKH, CKJ  | 68#、100#、150#、220#、320#                | 18L、200L    |  |
|                            |               | Full-synthetic gear oil CKS、CKT 50#、220#、320#、460#、680#         |   | 18L、200L                               |             |  |
|                            | ustrial       | Worm gear oil   | CKE, CKE-P  | 220#、320#、460#、680#、1000#              | 18L、200L    |  |
| equ                        | ipment<br>oil | Reciprocating air compressor oil                                |   |  | 18L、200L    |  |
|                            |               | Rotary air<br>compressor oil                                    | DAG DAH DAJ   | 15#、22#、32#、46#、68#、100#               | 18L、200L    |  |
|                            |               | Frozen oil  | Frozen oil DRB/A、DRB/B 22#、32#、46#、68#、100#、220#、320# |  | 18L、200L    |  |
|                            |               | Turbine oil TSA、TSB 32#、46#、68#、100                             |   | 32#、46#、68#、100#                       | 18L、200L    |  |
|                            |               | Rail oil  | L-G   | 32#、68#、100#、150#                      | 18L、200L    |  |
|                            |               | Vacuum pump oil   | DAV   | 46#、68#、100#                           | 18L、200L    |  |
|                            |               | HTF   | QB, QC  | QB300、QC320                            | 200L        |  |
|                            |               | Spindle oil   | ndle oil FC、FD 2#、5#、7#、10#                           |  | 18L、200L    |  |
|                            |               |   |   |  |             |  |

Page 25-26 zhong tian petrochemical

# Product Catalogue-----Lubricating Oil

|                                |   | To the second se | NAME OF THE STREET OF THE STRE |           |
|--------------------------------|---|--|--|-----------|
| Series Product name            |   | Quality level (API)  | Viscosity grade(SAE)   | Packaging |
| Industrial<br>equipment<br>oil | Film bearing oil                            | •  | 100#、220#、320#、460#  | 18L、200L  |
|                                | Textile machine oil                         | *  | 5#、7#、10#、15#、22#、32#、46#、68#  | 18L、200L  |
|                                | Sewing machine oil                          | •  | 2#、3#、5#、7#、10#、15#、22#  | 18L、200L  |
|                                | FL High Temperature<br>Chain Oil            | FL1、FL2  | *  | 18L、200L  |
|                                | Medium-speed trunk piston engine oil        | 4008、4012、<br>4020、4030  | (E)  | 18L、200L  |
| Industrial                     | Cylinder oil                                | 5050、5070  | *  | 18L、200L  |
| equipment<br>oil               | High-speed marine diesel engine oil         | CF-4、CH-4  | 10W/40、15W/40  | 18L、200L  |
|                                | Marine system oil                           | 3006、3006、<br>4006、4008  |  | 18L、200L  |
|                                | Rust emulsified oil                         | FMQ811   |  | 18L、200L  |
|                                | Line cutting fluid                          | FMQ813   | •  | 18L、200L  |
|                                | Non-ferrous metal emulsion                  | FMQ814   | <b>E</b>   | 18L、200L  |
|                                | Multi-effect anti-rust cutting fluid        | FMQ822   | (#.)   | 18L、200L  |
|                                | CNC machine tools<br>Powerful cutting fluid | FMQ831   | .5   | 18L、200L  |
|                                | Precision Grinding<br>Fluid                 | FMQ910   | ₩  | 18L、200L  |
|                                | Aluminum cutting fluid                      | FMQ920   | <b></b>  | 18L、200L  |
| Industrial                     | Universal multi-<br>effectcutting oil       | FL1、FL2  | *  | 18L、200L  |
| equipment<br>oil               | Heavy-duty cutting oil                      | FMQ921   | w.   | 18L、200L  |
|                                | Deep hole drilling oil                      | FMQ930   | ₹:   | 18L、200L  |
|                                | Ultra-fine grinding<br>honing oil           | FMQ940   | w  | 18L、200L  |
|                                | Non-ferrous metal processing oil            | FMQ950、FMQ951  | *  | 18L、200L  |
|                                | EDM oil                                     | FMQ801   | H:   | 18L、200L  |
|                                | Copper wire drawing liquid                  | FMQ802   | *  | 18L、200L  |
|                                | Aluminum<br>drawing fluid                   | FMQ803   | w.   | 18L、200L  |
|                                | Stainless steel<br>drawing fluid            | FMQ804   | *  | 18L、200L  |
|                                | Water film displace-<br>ment antirust oil   | FR911  |  | 18L、200L  |
|                                | Strong penetrating antirust oil             | FR912  | ~  | 18L、200L  |
| Matel                          | Universal antirust oil                      | FR921  | <b>2</b>   | 18L、200L  |
| Metal<br>anti-rust<br>oil      | Long-term<br>antirust oil                   | FR922  | *  | 18L、200L  |
|                                | Slim antirust oil                           | FR923  | <b>3</b>   | 18L、200L  |
|                                | Antirust/<br>lubricating oil                | FR941  | *  | 18L、200L  |
|                                | Antirustt grease                            | FR951  | 120  | 18L、200L  |
|                                |   |  |  |           |

| Series                 | Product name                               | NLGI level    | Working<br>temperature | Packaging                                  |
|------------------------|--|---------------|------------------------|--|
|                        | Heavy-duty automotive wheel bearing grease | 2#、3#         | -30 C ~220 C           | 0.8~2kg/container、<br>15kg/pail、170kg/drum |
|                        | Automotive CVJ grease                      | 2#            | -40°C ~120°C           | 12kg、15kg/pail、170kg/drum                  |
| Automotive lubricating | Multipurpose lithium grease for automobile | 2#、3#         | -30 ℃ ~220 ℃           | 12kg、15kg/pail、170kg/drum                  |
| grease                 | Shield machine grease                      | -             | -20 °C ~120 °C         | 12kg、15kg/pail、170kg/drum                  |
|                        | Construction<br>machinery grease           | 1#、2#、3#      | -30 ℃ ~130 ℃           | 12kg、15kg/pail、170kg/drum                  |
|                        | Concrete pump grease                       | 0#、00#、000#   | -20 C ~120 C           | 12kg、15kg/pail、170kg/drum                  |
|                        | FT108 lithium grease                       | 1#、2#、3#      | -20 °C ~120 °C         | 12kg、15kg/pail、170kg/drum                  |
|                        | Multi-purpose<br>lithium grease            | 1#、2#、3#      | -20°C ~120°C           | 12kg、15kg/pail、170kg/drum                  |
|                        | Extreme pressure lithium grease            | 1#、2#、3#      | -30 ℃ ~120 ℃           | 12kg、15kg/pail、170kg/drum                  |
|                        | Molybdenum disulfide<br>lithium grease     | 1#、2#、3#      | -30 °C ~150 °C         | 12kg、15kg/pail、170kg/drum                  |
|                        | Semi-fluid<br>lithium grease               | 0#、00#、000#   | -20 C ~110 C           | 12kg、15kg/pail、170kg/drum                  |
|                        | HP high-temperature grease                 | 3#            | -30℃ ~200℃             | 12kg、15kg/pail、170kg/drum                  |
| General                | Extreme pressure lithium complex grease    | 2#、3#         | -30 ℃ ~220 ℃           | 12kg、15kg/pail、170kg/drum                  |
| purpose                | Polyurea grease                            | 1#、2#、3#      | -20 °C ~220 °C         | 12kg、15kg/pail、170kg/drum                  |
| grease                 | Complex calcium sulfonate grease           | 2#、3#         | -30 ℃ ~230 ℃           | 12kg、15kg/pail、170kg/drum                  |
|                        | Plastic gear grease                        | 1#、2#         | -40°C ~150°C           | 12kg、15kg/pail、170kg/drum                  |
|                        | Long-life bearing grease                   | 1#、2#、3#      | -30℃~200℃              | 12kg、15kg/pail、170kg/drum                  |
|                        | White grease                               | 1#、2#、3#      | -30 C ~130 C           | 12kg、15kg/pail、170kg/drum                  |
|                        | Ultra-high<br>temperature grease           | 2#、3#         | 600 C                  | 12kg、15kg/pail、170kg/drum                  |
|                        | Ultra-low<br>temperature grease            | 1#、2#         | -60°C ~140°C           | 12kg、15kg/pail、170kg/drum                  |
|                        | Wide temperature greases                   | 1#、2#         | -50 °C ~200 °C         | 12kg、15kg/pail、170kg/drum                  |
|                        | Precision bearing grease                   | 2#、3#         | -20 C ~130 C           | 12kg、15kg/pail、170kg/drum                  |
|                        | Rope surface grease                        | -             | -30℃~50℃               | 12kg、15kg/pail、170kg/drum                  |
|                        | Rope heart grease                          | <del>5.</del> | -30℃~60℃               | 12kg、15kg/pail、170kg/drum                  |
|                        | Heavy-duty open<br>gear grease             | 0#、00#、000#   | -30℃~180℃              | 12kg、15kg/pail、170kg/drum                  |
|                        | Gear reducer grease                        | 0#、00#、000#   | -30 C ~120 C           | 12kg、15kg/pail、170kg/drum                  |
|                        | Rolling mill<br>bearing grease             | 2#、3#         | -30 °C ~200 °C         | 12kg、15kg/pail、170kg/drum                  |
| Industrial equipment   | Sintering<br>machine grease                | 0#、1#、2#      | -30℃~200℃              | 12kg、15kg/pail、170kg/drum                  |
| grease                 | Caster special grease                      | 0#、1#、2#      | -30 °C ~200 °C         | 12kg、15kg/pail、170kg/drum                  |
|                        | Charging roller table grease               | 1#、2#         | -30 ℃ ~200 ℃           | 12kg、15kg/pail、170kg/drum                  |
|                        | Calender grease                            | 1#、2#         | -30 °C ~150 °C         | 12kg、15kg/pail、170kg/drum                  |
|                        | High temperature<br>kiln car grease        | 2#、3#         | -30℃~200℃              | 12kg、15kg/pail、170kg/drum                  |
|                        | Mixing machine grease                      | 0#、00#、000#   | -30 ℃ ~180 ℃           | 12kg、15kg/pail、170kg/drum                  |
|                        | Food machinery grease                      | 1#、2#         | -30℃ ~180℃             | 12kg、15kg/pail、170kg/drum                  |
|                        | Electrical contact grease                  |               | -35℃~120℃              | 12kg 15kg/pail 170kg/drum                  |
| Electrical equipment   | Electrical insulating                      | 0#、00#        | -45°C ~200°C           | 12kg 15kg/pail 170kg/drum                  |
| grease                 | grease Damping grease                      | 2-67/19       | PARTICION DISTRICTOR   | 8.500 2.500 1.38 600 2.500 1.300           |
|                        | Damping grease                             | 2#            | -20℃~130℃              | 12kg、15kg/pail、170kg/drum                  |





