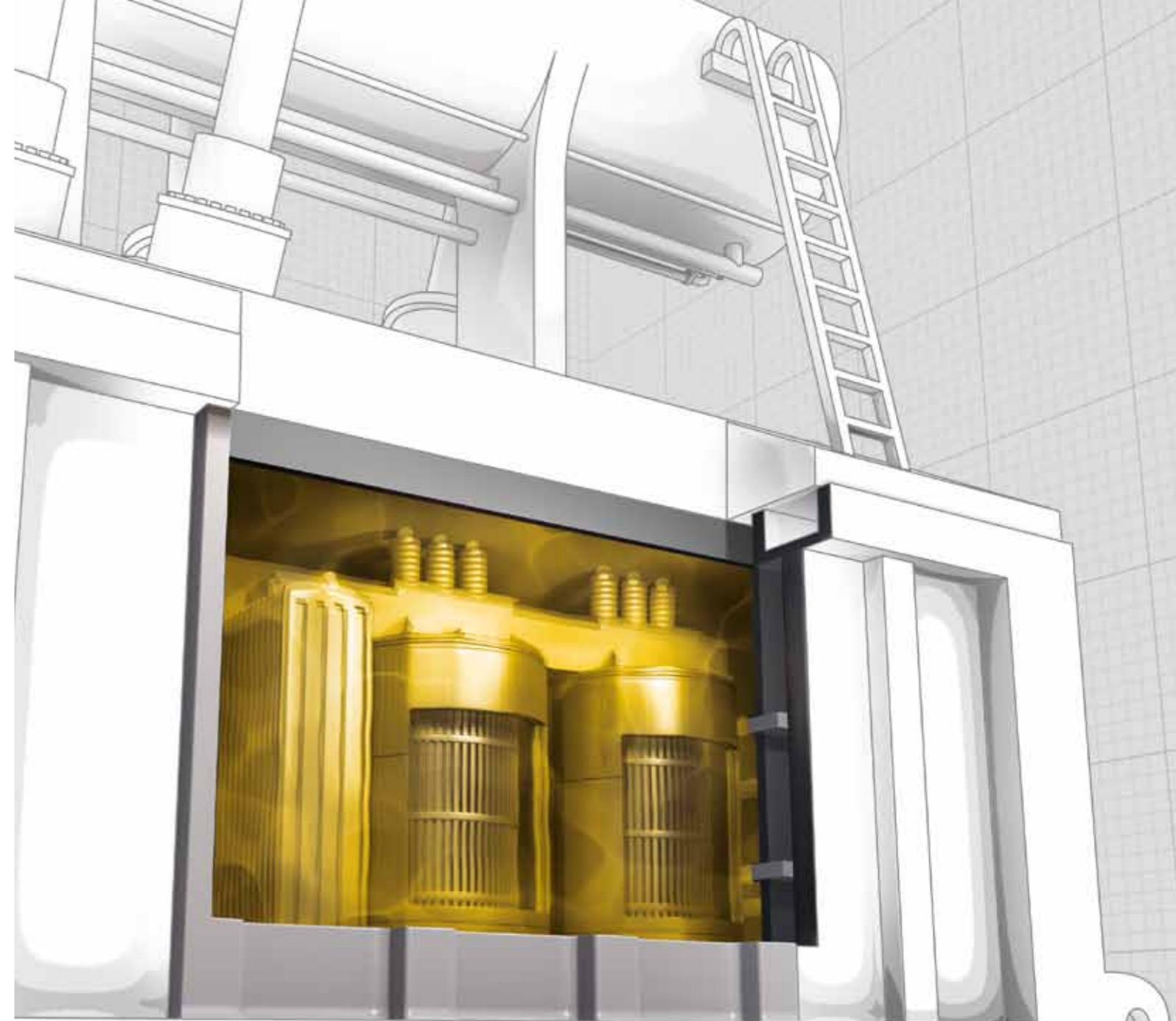


Product	Category descriptor	Benefits	Technology	Specifications and approvals <small>(Full details of approvals for all products can be obtained from your Shell representative; approvals and claims will vary by viscosity grade.)</small>
Shell Diala S3 ZXIG	Premium inhibited electrical insulating oil	<ul style="list-style-type: none"> ■ Extra gas-absorbing performance ■ Meets IEC 60296 	Inhibited	Meets the requirements of or is approved by most leading equipment manufacturers and utility companies Industry standards: IEC 60296 (2003), Table 2 Transformer Oil (I) (Inhibited oil); Baader oxidation test (obsolete) DIN 57370-1 (1978)
Shell Diala S2 ZUH	Uninhibited electrical insulating oil	<ul style="list-style-type: none"> ■ Reliable performance ■ Meets IEC 60296 	Uninhibited	Meets the requirements of or is approved by most leading equipment manufacturers and utility companies Industry standards: IEC 60296 (2003), Table 2 Transformer Oil (U) (Uninhibited oil)



COMPREHENSIVE PRODUCT AND SERVICE PROVISION

Shell Lubricants is named the number one lubricants supplier [Kline & Company, 2009] and has a 60-year history of innovation. We are constantly investing to develop better lubrication solutions, as demonstrated by

- Shell Turbo GT – a fully synthetic top-tier industrial gas turbine oil
- Shell Mysella XL – for the most-demanding, natural-gas-powered generator sets.

In addition, Shell provides the excellent Shell LubeAnalyst oil condition monitoring service, which is designed to help you improve your business performance.

Whatever your needs or application, Shell can provide a full range of oils and greases, including synthetic, high-performance products and additional services.

Shell Lubricants refers to the various Shell companies engaged in the lubricants business.



For more information, please contact

Placeholder for contact information, consisting of a large empty rectangular box with corner brackets.

shell.com/lubricants



**DESIGNED TO KEEP
ON DELIVERING.
JUST LIKE OUR
ELECTRICAL INSULATING
OILS – SHELL DIALA.**

DESIGNED TO MEET CHALLENGES



EVERY PART OF YOUR MACHINE OR PROCESS HAS BEEN METICULOUSLY ENGINEERED, SO YOU WANT TO BE SURE THAT YOU CHOOSE A LUBRICANT THAT HAS BEEN DESIGNED TO ENSURE THAT YOUR EQUIPMENT IS WELL PROTECTED AND WORKS EFFICIENTLY.

The Shell Diala range of electrical oils has been developed to enable equipment manufacturers and power companies to select the oil designed to deliver optimum value to their operations through enhanced equipment protection, long oil life and high system efficiency.

EQUIPMENT PROTECTION

An electrical insulating oil lies at the heart of your transformer. The Shell Diala range of electrical insulating oils offers a number of options, including the latest fully inhibited, ultra-low-sulphur technology that meets all the current IEC and ASTM standards for copper corrosion, and is designed to ensure the best possible protection for your high-value assets. Shell also offers special gas-absorbing insulating oils for use in high-electrical-stress applications such as those found in high-voltage, direct-current (HVDC) transformers.

OIL LIFE

A long and predictable oil life is critical to transformer performance. The Shell Diala range of oils includes inhibited and uninhibited electrical insulating oils to give you a choice of performance profiles to best match your requirements. Shell's latest products meet the IEC 60296 high level of oxidation performance and exceed the 500-hour oxidation test limit.

SYSTEM EFFICIENCY

To help your transformer perform to its design standards, an electrical insulating oil must maintain its characteristics over a wide range of operating temperatures. All the Shell Diala electrical oils are designed to offer excellent heat transfer and dielectric properties, even at the lowest start-up operating temperatures. In addition, Shell Diala oils are formulated to offer excellent resistance to the effects of ageing, sludge formation and deposit build-up.



A RANGE OF ELECTRICAL OILS DESIGNED TO MEET YOUR NEEDS

To meet the challenges of a wide range of equipment designs and applications, Shell has designed a portfolio of fluids that enables you to choose a product to best match your technical and operational needs.

PRODUCT-NAME SUFFIX KEY

- G** = Gas absorbing
- I** = Conforms to IEC specifications
- U** = Uninhibited
- X** = Fully inhibited
- Z** = Insulating oil

APPLICATION ICON KEY

-  Transformer applications
-  Power station applications

THE SHELL DIALA RANGE FOR STANDARD APPLICATIONS

THE SHELL DIALA RANGE FOR SPECIAL APPLICATIONS

INCREASINGLY EFFICIENT PROTECTION



ADVANCED TIER 4
PREMIUM TIER 3
MAIN LINE TIER 2

Shell Diala **S2 ZU-I**

- Reliable performance
- Meets IEC 60296



Shell Diala **S3 ZX-IG**

- Extra gas-absorbing performance
- Meets IEC 60296



CORROSIVENESS TO COPPER

All Shell Diala products meet the industry standards for copper corrosion: IEC 62535, ASTM D1275B and DIN 51353.

In addition, Shell is committed to minimising insulating-oil-related copper corrosion in transformers. The organisation works with equipment manufacturers, utility companies and specifying technical committees to understand the causes of corrosion and to reduce or even eliminate sulphur levels in its electrical insulating oils.

SPECIALIST APPLICATIONS

Shell offers several products designed for specialist applications. These include

- Shell Naturelle Transformer Oil S4 I. This is a synthetic-ester-based product that offers excellent low-flammability characteristics. It has a flashpoint of 275°C, is fully biodegradable and meets European Union Ecolabel requirements
- Shell Diala Switchgear Oil, which is designed for switchgear applications and is highly suitable for applications likely to operate at very low temperatures without additional heating.

