

Expanding our environmental business

The companies of the Cosmo Oil Group have been working closely together to develop products with reduced environmental impacts and petroleum-related environmental technologies. Through these technologies and products we are helping to reduce the adverse impacts on the environment of companies in the petroleum and other industries.

Basic dioxin test kit

We have developed and commercialized a testing kit we call "Imuno-Eco DXN," a product that uses biotechnology to detect even low concentrations of dioxins.

When measuring dioxin levels in soil, ash, and gas emissions, this kit produces results that correlate closely with official methods. A sales trial started in fiscal 2002 through a major reagent company.



Basic dioxin test kit "Imuno-Eco DXN"

VOC*1 recovery unit

The Cosmo Oil Group has been developing a volatile organic compound (VOC) recovery unit and VOC adsorbents to recover hydrocarbon vapors that escape during pumping at oil refineries and storage depots.

In fiscal 2002, using special adsorptive silica gel developed at our Research and Development Center, we succeeded in developing a halogenated solvent, which is now being used by pharmaceutical manufacturers.

We will continue building our environmental business as we work on environmental protection through VOC recovery at petroleum facilities not only in Japan but also in Middle Eastern oil-producing countries.

*1. VOC (Volatile Organic Compound)

VOCs dissipate rapidly in air. They not only cause photochemical smog and air pollution, but are also known to have an impact on climate change.

*2. The SL is an international standard established by the American Petroleum Institute (API).

*3. Filter that removes soot from diesel vehicle exhaust.

Cosmo Oil Group's environmental technologies and products

Automotive oil products (Cosmo Oil Lubricants Co.)

Oils for gasoline engines "Cosmo LIO SL*2 series"

Oil for diesel engines "Shinsei"

Eco Diesel "Kaisei"

Oil for natural gas engines "Cosmo CNG Oil"

Oil products for other uses (Cosmo Oil Lubricants Co.)

Lubricating oil "Cosmo Terra series"

Metal cutting oil "Cosmo Clean Cut Cool series"

Lubricating oil for food machinery

"Cosmo Anderol" Series

Cleaners and removers (Cosmo Eco Support Inc.)

High performance remover "Hakurisuto"

Coating materials (Cosmo Trade & Service Co.)

Heat insulation coatings "Super Therm"

Concrete protector and strengthener

"Ashford Formula"

Plant facilities

Hydrocarbon vapor recovery unit

(Cosmo Engineering Co.)

Volatile organic compound (VOC)

recovery unit (Cosmo Engineering Co.)

Dioxin removal unit for exhaust gases

(Cosmo Engineering Co.)

Dioxin removal unit for wastewater

(Cosmo Engineering Co.)

Process wastewater treatment technology

(Cosmo Engineering Co.)

Process wastewater treatment system

"Bioflora 01" (Cosmo Eco Support)

Benzene utilization (Cosmo Matsuyama Oil Co.)

Natural gas fuels (Cosmo Oil Gas)

Liquefied Petroleum Gas

Others (Cosmo Matsuyama Oil Co.)

Base material for neutrino detector,

"Pseudocumene" (Cosmo Matsuyama Oil Co.)

5-aminolevulinic acid

(Research and Development Center)

These oils keep the engine clean, increase heat resistance, and reduce fuel consumption. They also help reduce engine oil consumption.

Chlorine content is one-tenth that of conventional oils. Extends engine life and mileage between oil changes.

For use in engines with DPF (Diesel Particulate Filters)*3, this oil increases heat resistance and reduces wear.



Cosmo LIO SL series



Kaisei

Special oil for natural gas and LP gas engines, with increased heat resistance, high-temperature detergency and lower wear. Extends engine life and mileage between oil changes.

This lubricating oil, which can be decomposed by microorganisms into carbon dioxide and water, has been certified as an Eco Mark (Japanese eco-label) product. Has a wide range of applications, including construction and agricultural equipment, railway cars, outboard motors, chainsaws, and others.

This metal cutting oil is chlorine-free. Helps solve problems associated with chlorine in waste oil disposal and cleaning processes.

This lubricating oil meets the requirement of USDA/NSF H1.

Has been used extensively at HACCP-certified food factories around the U.S. and Europe.



Cosmo Anderol series

This high-quality remover has been developed for removing oil sludge. It is safe and meets regulations on chemical substances and prevention of organic solvent poisoning. Expected to be effective in the maintenance of vacuum diffusion pumps in state-of-the-art vacuum deposition.

A heat-insulating coating material first developed by NASA. We are developing a broad range of applications including insulation for railway cars, buses and trucks in addition to roofing and piping.

This product extends the life of concrete floors and suppresses concrete dust.

Has applications at distribution centers, home improvement centers, and factories, etc. Imported from the U.S.



Hydrocarbon vapor recovery unit

A unit for recovering hydrocarbon vapors from gasoline, etc., using our unique "Cosmo adsorption method."

Now used at petroleum facilities not only of Cosmo Oil Group but also of other companies.

Recovery unit using the same technology as vapor recovery unit. Praised for its high recovery rate, space-saving size, and high level of safety, it is widely used in chemical, printing, and pharmaceutical industries.

This adsorption unit, when installed after the fly-ash collector of existing incinerators, can greatly reduce dioxin concentrations, with removal rates of 99% or more. This greatly decreases the dioxins generated by municipal and industrial waste incineration facilities.



Dioxin removal unit for exhaust gases

Uses our own independently-developed activated carbon for the treatment of wastewater contaminated with dioxins.

Helps remove dioxins in wastewater from final treatment facilities and in the discharge from the dismantling of incinerators.

A technology that combines a high-efficiency activated sludge unit, denitrification and phosphorus removal units.

It is being used for advanced treatment of effluent from not only oil refineries, but also pig farms and other facilities.

Using microorganisms, this product decomposes oil and organic materials in wastewater into water and carbon dioxide.

No chemicals or filtration films are necessary.



Bioflora 01

Takes benzene generated from the benzene separation process at oil refineries and uses it as an ingredient in chemical products by processing it with equipment such as aromatics extractors.

Cosmo Oil Gas supplies LP gas, a clean energy that has low environmental impacts similar to natural gas.

Also is working to boost demand for LPG by promoting advanced LPG -powered cars, basic LPG fueling stations, and LPG co-generation for houses.

We will work on other clean energies such as LNG and DME, promoting a stable supply of gas energies in harmony with the environment.



Aromatics extractor for processing petrochemical products

This product is used as a base material in a new method of neutrino detection at KamLAND, a neutrino detection facility for a research project organized by Tohoku University.

Cosmo has developed an efficient manufacturing method for the natural amino-acid, 5-aminolevulinic acid (ALA).

This amino-acid has a function to promote plant growth and has been used as a raw material of high-performance fertilizers.