



TVEL
ROSATOM

Russian Federation,
Moscow, TVEL
www.tvel.ru



LITHIUM-7 HYDROXIDE MONOHYDRATE

FUEL COMPANY TVEL IS THE WORLD'S LARGEST LITHIUM-7 MANUFACTURER

SCOPE OF APPLICATION



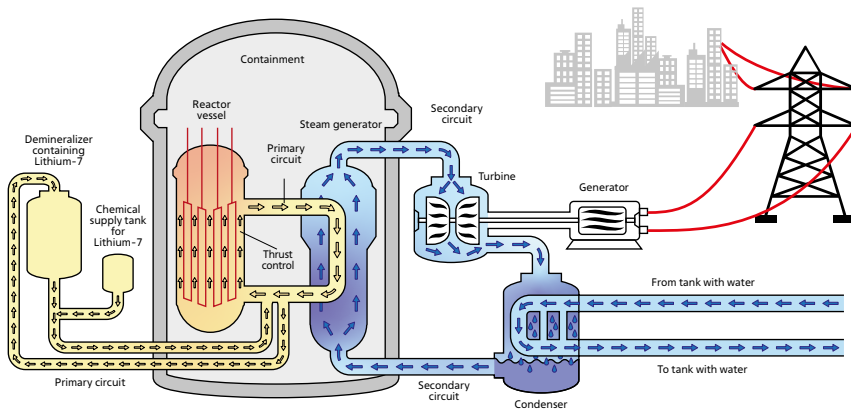
Lithium-7 is used in nuclear power as an additive in primary coolant PWR type reactors to control water chemistry and enhance corrosion protection. It is also used in the production of reagents for nuclear power as a main component and of nuclear class ion-exchange membranes, including as part of water treatment equipment for PWR reactor coolants.

The product is supplied as **Lithium-7 hydroxide monohydrate**.

Atomic percentage of Lithium-7 relative to the total of lithium isotopes, %	LHO-7 99.9%	LHO-7 99.95%
Weight percentage of Lithium hydroxide, %	≥56	≥56
Weight percentage of impurities, %:		
Lead + Mercury	≤0.001	≤ 0.001
Chlorine	≤0.05	≤0.05
Fluorine	≤0.05	≤0.05
Sulphates	≤0.05	≤0.05
Sodium	≤0.05	≤0.05
Silicon	≤0.05	≤0.05
Phosphates	≤0.05	≤0.05

Appearance: Fine crystalline substance of white, light gray, beige color.
Custom manufacture, including various forms of the product, is possible.

HIGH PURITY LITHIUM-7 HYDROXIDE MONOHYDRATE (Li-7 99.99%):



Scope of product application:

Lithium-7 hydroxide monohydrate (99.99%) is used as a secondary coolant component in molten salt reactors (MSR) with neutron capture and also in the cooling system of PWR reactors.

Atomic percentage of Lithium-7 relative to the total of lithium isotopes, %	99.99
Weight percentage of Lithium hydroxide, %	48-58
Weight percentage of impurities, %:	
Lead	≤0.001
Zinc	≤0.0005
Mercury	≤0.0005
Chlorine	≤0.05
Sulphates	≤0.02
Sodium	≤0.002
Fluorine	≤0.01
Ferrum	≤0.001
Insoluble	≤0.1
Silicon	≤0.05
Phosphate	≤0.05

Appearance: Fine crystalline substance of white, light gray, beige color
Custom manufacture, including various forms of the product, is possible.

Details:

Reducing of parasitic neutron capture in PWR power reactors is one of the ways of increasing the efficiency of nuclear power plants, which can translate into an increase in the reactivity of the reactor, reduced fuel enrichment and the saving of the fuel component.

Accordingly, the purer the lithium-7 isotope, the less effectively it absorbs neutrons, preventing the formation of tritium during neutron capture.

PACKAGING AND STORAGE PERIOD



Lithium-7 hydroxide monohydrate is packed in double polyethylene bags which are sealed and then placed in a protective bag previously enclosed in a container. A 48 dm³ polyethylene or metal barrel is used as a container. The warranty period of storage is 5 years from the manufacture date of the product.

Lithium-7 is registered by the European Chemicals Agency in accordance with the REACH regulation.

