

## Lithium-7 in the form of Lithium Hydroxide Monohydrate ( ${}^7\text{LiOH}\cdot\text{H}_2\text{O}$ ) for the nuclear industry

**Lithium-7 Hydroxide Monohydrate** ( ${}^7\text{LiOH}\cdot\text{H}_2\text{O}$ ) for use as an alkalizing agent in pressurized water reactors. Our Lithium-7 enriched  $\text{LiOH}\cdot\text{H}_2\text{O}$  is specifically designed to meet the quality requirements of the nuclear power industry.

### Information

**NUKEM Isotopes GmbH** based in Alzenau, Germany is a global leader in providing isotopes in the form of ultra-pure substances.

Since more than 2 decades, our enriched **Lithium-7 Hydroxide Monohydrate** is successfully used in nuclear industry and with our quality management (ISO 9001-2015, US standard 10 CFR 50 Appendix B - standard for purchase of sensitive material for nuclear power plants - and 10 CFR 21) as well as third party analysis of our products, we guarantee our customers reliable services and high-quality isotopes.

Lithium-7 (Li-7) is used to adjust the pH level in the cooling water pressurized water reactors of nuclear. Lithium-7 in the form of Lithium Hydroxide Monohydrate is necessary in small quantities for safe operation of the reactor cooling systems as it reduces corrosion in the primary circuit.

### Lithium-7 hydroxide monohydrate

Our  ${}^7\text{LiOH}\cdot\text{H}_2\text{O}$  "**Grade – X**" is a material of extra high purity and enrichment, far exceeding the requirements of all NPP specifications and producers of ion exchange resins.

In order to offer continuous high quality, every production lot at NUKEM Isotopes GmbH is

subjected to a detailed analysis. This third-party analysis is performed by our long-term partner, the accredited Institute SGS Fresenius. At NUKEM Isotopes GmbH, all partners from production, through analysis to delivery are of course subject to appropriate audits in order to always meet and exceed the quality requirements of our customers. This makes NUKEM Isotopes GmbH the perfect partner to ensure a reliable supply of Lithium-7 Hydroxide Monohydrate on long-term basis.

### Packing

The package format is welded 1 kg double PE-bags. **Our package format simplifies dispensing**, is easier to handle and avoids the hazardous dust problems of dispensing material from a single large drum. Further, our package format **remarkable extends shelf life**.

This means that only the material required for immediate dosing is opened, keeping unused material sealed from atmospheric contamination, and preventing degradation during storage.

## <sup>7</sup>LiOH·H<sub>2</sub>O Specification

### Physical and chemical properties:

- Material <sup>7</sup>Li in the form of LiOH·H<sub>2</sub>O.
- Enrichment <sup>7</sup>Li ≥ 99.95at%
- Total <sup>7</sup>LiOH content 48wt% - 58wt%
- Water content 42wt% - 52wt%.

### Impurities in µg/g

Al	≤ 5
Ca	≤ 10
Cl	≤ 20
Cu	≤ 1
F	≤ 200
Fe	≤ 10
Hg	≤ 0.05
K	≤ 10
Mg	≤ 5
Na	≤ 10
Pb	≤ 0.2
PO <sub>4</sub>	≤ 200
SiO <sub>2</sub>	≤ 250
SO <sub>4</sub>	≤ 100
Zn	≤ 2
Insolubles	≤ 1000

## Reasons to buy Isotopes from us

The NUKEM Isotopes Team combines both technological and commercial background and long-term experience in the Isotopes trading business. Our key personnel have a combined working experience of over 100 years in trading isotopes. With qualified chemists and physicists, trained sales personnel and specialized shipping experts, we can guarantee our customers a reliable and quick supply of our products.

- We provide supply security based on our multiple, audited production sources worldwide.
- We will rush your order to you (to any place in the world) from our warehouse at the Frankfurt airport within as little as 3 days.
- We assure our quality by independent sampling and analyses by Germany's most respected laboratories.
- We provide professional packaging, documentation and shipping services.
- We are fully accredited to DIN ISO 9001-2015 by BSI Management Systems.
- We are repeatedly audited by NUPIC members and audited according to US standard 10CFR50 Appendix B and 10CFR21.

### Disclaimer

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. See invoice or packing slip for additional terms and conditions of sale.

Not for drug, household or other uses.

### NUKEM Isotopes GmbH

Rodenbacher Str. 47, 63755 Alzenau, Germany, T: +49 (0)6023 9474-800, F: +49 (0)6023 9474-813; E: [info@nukemisotopes.de](mailto:info@nukemisotopes.de), I: [www.nukem-isotopes.com](http://www.nukem-isotopes.com)