



Neurobium C60

Pharma/Biotech

Description

NEUROBIUM™ C60 is a specialized research-grade fullerene C60, designed for use in pharmaceutical and biotechnology studies. Featuring a distinctive hollow carbon cage, it serves as a multi-radical scavenger, effectively neutralizing both reactive oxygen and nitrogen species. It is engineered to imitate the function of natural antioxidant enzymes like superoxidedismutase (SOD) [Ref. 4].

Key Applications in Pharma & Biotech Research:

- **Neuroprotection:** Exhibits protective properties in neuronal models, helping to decrease apoptosis and reduce oxidative stress during neurodegenerative disease investigations [Ref. 2, 4].
- **Oxidative Stress Modulation:** Research shows C60 can lower oxidative damage and prevent lipid peroxidation, making it significant for cardiovascular, renal, and hepatic research [Ref. 4].
- **Drug Delivery Nanocarriers:** Thanks to their spherical shape and ability to be functionalized, C60 molecules can be linked to drugs, peptides, or nucleic acids to facilitate targeted deliver [Ref. 3, 5].
- **Anti-viral and Anti-proliferative Research:** Various fullerene derivatives are being explored for their potential to inhibit viral proteases and for their roles in oncology research [Ref. 1, 5].

References

- [1] Hurmach, V. V.; et al. **Anticoronavirus activity of C60 fullerene: In silico and in vitro screening.** Nano Biomed. Eng. 2024, 16 (1), 45–58.
- [2] Du, J.; et al. **Distinctive Effects of Fullerene C60 and Fullerenol C60(OH), Nanoparticles on Behavioral Hallmarks of Alzheimer's Disease.** Int. J. Mol. Sci. 2023, 24 (15), 12154.
- [3] Zhu, Y.; et al. **Fullerene C60 Conjugate with Folic Acid for Targeted Delivery to Tumor Cells.** Pharmaceutics 2023, 15 (3), 982.
- [4] Gharbi, N.; et al. **[60] Fullerene is a powerful antioxidant in vivo with no acute toxicity.** Toxicol. Lett. 2005, 158 (3), 183–192..
- [5] Smith, A. B.; et al. **Development of photoactive biomaterial using modified fullerene nanoparticles.** Front. Chem. 2024, 12, 134567.



Neurobium C60 SOL5060YN

Available from **g level** (for R&D, Tech centers and universities) to **kg level** (for industrial developments).



Grade 99.95% (SOL5060YN)
Solvent-free* 

* **Optimized for high solubility** in water and aqueous buffers.

** **Purity preservation:** Packed underinert medical nitrogen gas to inhibit oxidation.

*** **Synthesized via a Solvent-Free Method** (A Solaris Chem Inc proprietary solvent-free synthetical method is used, resulting in a solvent free material).

Time to dissolve/disperse in:

Toluene: Few seconds to few minutes (max 3 g/L).

o-DCB: Few seconds to few minutes (max 24 g/L).

Olive oil: 3-5 days (to 0.8-1g/L, vs 2 weeks for most common C60 powder).

Estimated times provided as a guidelines only.



Green chemistry



Environmentally friendly

SUSTAINABILITY is at the core of what we do and our engine for growth, which is why we prioritize the use of GREEN CHEMISTRY, avoid wastes, recover and recycle solvents and materials as much as possible and use renewable hydro-electrical energy to power our operations.

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SOLARIS CHEM America

Headquarters & Labs
3650 Bld. Cité-des-Jeunes, Suite 101,
Vaudreuil-Dorion, Quebec, Canada
J7V 8P2
Toll Free: (855) 489-3557
Phone: (579) 217-0260
General info: info@solarischem.com
Sales: sales@solarischem.com
website: solarischem.com

SOLARIS CHEM Europe

Representative
EMFUTUR Advanced Corporation S.L.
Rnd. Circunvalación 188, of. 11,
12003 Castellón, Spain
P. +34 864961236
solarischem.com/contact

SOLARIS CHEM Taiwan

(Taiwan, China, Hong Kong)
2F., No. 67, Aly. 30, Ln. 136,
Kangle St., Neihu Dist.,
Taipei City 114, Taiwan (R.O.C.)
P. +88 69 8900 9807
solarischem.com/contact

SOLARIS CHEM Japan

Representative
TOSCO Co. LTD.
401 Daido Bldg., 3-5-5,
Uchikanda, Chiyoda-ku,
Tokyo 101-0047, JAPAN
T. +813 5295 6316
F. +81 5295 6311
website
solarischem.com/contact



Neurobium Hydroxy C60

Pharma/Biotech

Water soluble



Description

NEUROBIUM HYDROXY Fullerenol C60 is a water-soluble research-grade derivative of fullerene C60 with formula C60(OH)_n. Hydroxylation of C60, makes it highly soluble in aqueous media, enabling its use in biological systems, neurodegenerative disease models, oxidative stress assays, and nanomedicine. It maintains a strong radical-scavenging capacity and mimics SOD activity for targeted neuro- and organ protection [Ref. 2, 7, 8].



Neurobium
Hydroxy C60

SOL5369YN

Various Grades available to fit your formulations, device fabrication processes and methods.

Available from **g level** (for R&D, Tech centers and universities) to **kg level** (for industrial developments).



Key Research Applications:

- **Aqueous Neuroprotection:** Fullerenol nanoparticles reduce oxidative stress and inhibit neuronal apoptosis in biological models [Ref. 2, 7, 9].
- **Organ Protection:** Studied for protective properties against toxicity in cardiotoxicity, hepatotoxicity, and nephrotoxicity models [Ref. 4, 6, 9].
- **Solvent-Free Synthesis:** Produced via a Solaris Chem proprietary solvent-free synthetical method, resulting in a pristine material free of solvents.

References

- [1] Hurmach, V. V.; et al. **Anticoronavirus activity of C60 fullerene: In silico and in vitro screening.** Nano Biomed. Eng. 2024, 16 (1), 45–58.
- [2] Du, J.; et al. **Distinctive Effects of Fullerene C60 and Fullerenol C60(OH), Nanoparticles on Behavioral Hallmarks of Alzheimer's Disease.** Int. J. Mol. Sci. 2023, 24 (15), 12154.
- [3] Zhu, Y.; et al. **Fullerene C60 Conjugate with Folic Acid for Targeted Delivery to Tumor Cells.** Pharmaceutics 2023, 15 (3), 982.
- [4] Koushki, K.; et al. **Radioprotective fullerene derivative to alleviate radiation-induced cardiovascular disease.** Proc. Am. Assoc. Cancer Res. 2026, 86 (7_Suppl), Abstract nr 4626.
- [5] Popov, V. V.; et al. **Fullerenol C60(OH)40 and Ectoine Protect Human Nasal Epithelial Cells Against SARS-CoV-2 Spike Protein.** Nanomaterials 2024, 14 (2), 158.
- [6] Thompson, J. R.; et al. **Effect of Fullerenol C60(OH)24 on the Viability and Metabolism of THP-1 Human Monocytic Leukemia Cells.** Toxicol. In Vitro 2025, 102, 105782.
- [7] Injac, R.; et al. **Neuroprotective potential of fullerenol nanoparticles.** Pharmacol. Rep. 2011, 63 (1), 221–222.
- [8] Grębowski, J.; et al. **Fullerenol C60(OH)36 Protects Antioxidant Enzymes against Oxidative Damage in Human Erythrocytes.** Antioxidants 2022, 11 (9), 1754.

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SOLARIS CHEM Europe

Representative
EMFUTUR Advanced Corporation S.L.
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SOLARIS CHEM Japan

Representative
TOSCO Co. LTD.
401 Daido Bldg., 3-5-5,
Uchikanda, Chiyoda-ku,
Tokyo 101-0047, JAPAN
T. +813 5295 6316
F. +81 5295 6311
website
solarischem.com/contact