

## Material Safety Data Sheet: Doped Sodium Yttrium Fluoride Upconverting Nanocrystals

### Section 1: Chemical Product and Company Identification

Product Name: Doped Sodium Yttrium Fluoride (NaYF<sub>4</sub>) Upconverting Nanocrystals  
Created Date: July 24, 2015  
Manufacturer/Supplier by: Mesolight Inc  
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### Section 2: Composition, Information or Ingredients

INGREDIENT	CAS#
Doped sodium yttrium fluoride	753489-02-0
Oleic acid	112-80-1
Toluene	108-88-3

### Section 3: Hazard Identification

**Toxicity Data:** The health hazards of this product have not been fully tested; it should be used with caution.

**Routes of Entry (Under Normal Conditions of Use):**

Inhalation – Yes                      Skin – Yes                      Ingestion – Yes

**Medical Conditions Generally Aggravated by Exposure:** Respiratory disorders.

**Health Hazards (Acute and Chronic):** Not known applicable Information

### Section 4: First Aid Measures

**Skin Contact:** Wash the skin thoroughly with soap and water and seek medical advice.

**Eye contact:** If eye contact occurs, rinse eye thoroughly and seek medical advice

**Inhalation:** If inhaled, supply fresh air or respirator and seek medical advice.

**Ingestion:** If swallowed, seek medical attention immediately

### Section 5: Fire-Fighting Measures

**Flammable Limits:** Nonflammable, Hazard on contact with acid

**Extinguishing Media:** Do not use water, use dry chemical, dry ice, CO<sub>2</sub>

**Special Fire Fighting Procedures:** Wear a self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes

**Unusual Fire and Explosion Hazards:** Can react with moisture or acids to liberate, HF; which are fire and explosion hazard. When heated to decomposition, it may emit toxic fumes of HF.

### Section 6: Accidental Release Measures

**Personal Precautions:** Always use proper protective equipment.

- Environmental Precautions:** Do not allow material to reach drains or ground water.
- Cleanup of small spills:** Vacuum up spill using a high efficiency unit and place in a container for proper disposal.
- Disposal:** Collect and dispose of all waste in an appropriate container.

## Section 7: Handling and Storage

- Handling:** Follow safe laboratory practices. The product should only be used by or closely supervised by an individual trained to handle potentially hazardous materials.
- Storage:** Store in a dark, cool (4-25 °C) place in a tightly sealed container. Store in same type of container (glass/plastic) as shipped. Do not freeze.

## Section 8: Exposure Controls and Personal Protection

- Engineering Controls:** Use fume hood with proper ventilation.
- Personal Protection:** Gloves, lab coat, and goggles.

## Section 9: Physical and Chemical Properties

- Form:** Liquid
- Color:** Colorless
- pH:** Not disclosed
- Specific Gravity:** Not disclosed
- Boiling point:** n/a.
- Melting point:** n.a.
- Freezing point:** n.a
- Vapor Pressure:** 0 mmHg
- Odor:** Not disclosed
- Solubility:** soluble in organic solvents, chloroform, toluene, tetrahydrofuran

## Section 10: Stability and Reactivity

- Stability:** The product is stable
- Incompatibility (Conditions to Avoid):** Strong acids, oxidants.
- Thermal decomposition:** Not determined
- Materials to avoid:** Not determined
- Hazardous Polymerization:** Will not occur
- Conditions to Avoid:** Heat, flame and incompatible materials
- Hazardous Decomposition Products:** HF, Y<sub>2</sub>O<sub>3</sub>, Er<sub>2</sub>O<sub>3</sub>, Yb<sub>2</sub>O<sub>3</sub>

## Section 11: Toxicological Information

- RTECS Number:** Not disclosed
- Toxicity:** Not disclosed
- Health Hazards:** Refer to section 4
- Carcinogenicity:** No information is available

## Section 12: Ecological Information

No data available. See section 6

## Section 13: Disposal considerations

Dispose of in accordance with local, state, or national regulations.

## Section 14: Transport information

**U.S. DOT Classification:** Not a hazardous material for land or air transport.

**Identification Number:** Not applicable

**Packing Group:** Not applicable

**Proper Shipping Name:** Not applicable

## Section 15: Regulations

No data available for TSCA, EEC EINECS number, EEC risk statements, or other regulations.

## Section 16: Other information

Disclaimer: For R&D only. Not intended for food, drug, household, agricultural or cosmetic use. The above information is believed to be correct. Mesolight Inc shall not be held any liable for any damage resulting from handling or contact with the above product.