

Safety Data Sheet

Irgacure2959 Photoinitiator

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product name:	Foldink Crosslinking Agent	
1.2 Brand:	Foldink	
1.3 Product Number:	#IG20	
1.4 General use:	For use as an UV crosslinker of bioinks for 3D bioprinting, cell encapsulation, tissue engineering, regenerative medicine and drug delivery research. Not for human use, for research only.	
1.5 Company Address:	Foldink Corp. 2601 Preston Rd. Suite 3011. Frisco, Texas 75034, USA Tel.: +1 857 302 4934 Email: info@foldink.bio www.foldink.bio	Foldink LLC 22 Orbeli Brothers Street, 0028, Yerevan, Republic of Armenia Tel.: +37441041013 Email: info@foldink.bio www.foldink.bio

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture: Not a hazardous substance or mixture.

2.2 GHS Label elements, including precautionary statements

Hazard statement(s)

H411 Toxic to aquatic life with long lasting effects.

Precautionary statement(s) P273

Avoid release to the environment.

P391 Collect spillage.

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3. Hazards not otherwise classified (HNOC) or not covered by GHS: None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	EC No.	EC Class	Composition
Irgacure 2959(2-Hydroxy- 4'-(2-hydroxyetho xy)-2-methylpropi ophenone)	106797-53-9	None	None	

4. FIRST AID MEASURES

4.1 In case of eye contact: Flush eyes with water as a precaution. Consult a physician.

4.2 In case of skin contact: Wash with soap and plenty of water. Consult a physician.

4.3 If swallowed: Rinse mouth with plenty of water. Consult a physician.

4.4 If inhaled: Move person to fresh air. If any breathing difficulty or discomfort occurs and persists, obtain medical attention.

4.5 Notes to a medical doctor: Show this safety data sheet to the doctor in attendance. This product has low oral and inhalation toxicity. It is not a skin sensitizer and is nonirritating to the skin and eyes.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Fire/explosion hazards: No data available.

5.3 Firefighting procedures: Wear self-contained breathing apparatus for firefight if necessary.

5.4 Flammable limits: No data available.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures:

Avoid dust formation. Avoid breathing vapors, mist or gas. For personal protection, see section 8.

6.2 Environmental precautions: Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up: Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling: Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

7.2 Conditions for safe storage: Keep the container tightly closed in a dry and well-ventilated place. Light sensitive.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure limits: The product does not contain any substances with occupational exposure limit values.

8.2 Personal protection equipment

a) Eyes and face: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

b) Respiratory: Respiratory protection is not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

c) Protective clothing: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace. The type of protective equipment must be selected

according to the concentration and amount of the dangerous substance at the specific workplace.

d) Gloves: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique to avoid skin contact with this product. Dispose of the contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm
Break through time: 480 min Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm
Break through time: 480 min Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

9. PHYSICAL AND CHEMICAL PROPERTIES.

Appearance:	Light yellow powder
Upper/lower flammability:	No data available
Odor:	Characteristic
Odor threshold:	Not applicable
Vapor pressure:	< 0.000001 hPa at 20 °C
Vapor density:	No data available
pH:	No data available
Relative density:	1.284 g/cm ³ at 20°C
Melting point:	88 -90 °C
Boiling point:	331 °C
Flash point:	No data available
Evaporation rate:	No data available

Flammability:	No data available
Partition coefficient n-octanol/water:	log Pow: 0.84 at 23°C/ No data available
Autoignition temp:	No data available
Water solubility:	7.8 g/l at 25 °C
Decomposition temp:	No data available
Viscosity:	No data available

10. STABILITY AND REACTIVITY

Conditions to avoid:	Freezing.
Reactivity:	No data available.
Stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	No data available.
Incompatible materials:	Strong oxidizing agents.
Hazardous decomposition products:	Hazardous decomposition products formed under fire conditions. - Nature of decomposition products is not known. In the event of fire, see section 5.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:	
Oral LD50 (rat):	>2000 mg/kg Remarks: (Ecternal MSDS)
Inhalation:	No data available.
Dermal (Rat Male and Female) :	> 5,000 mg/kg
Skin corrosion/irritation:	Skin - Rabbit. Result: No skin irritation
Serious eye damage/eye irritation:	Eyes - Rabbit. Result: No eye irritation
Germ cell mutagenicity:	No data available.
Carcinogenicity:	No data available.

IARC	No components of this product present at levels greater than or equal to 0.1% is identified as known or anticipate carcinogen by IARC.
NTP	No components of this product present at levels greater than or equal to 0.1% is identified as known or anticipate carcinogen by NTP.
OSHA	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity:	No data available.
Specific target organ toxicity – single exposure:	No data available.
Specific target organ toxicity - repeated exposure:	No data available.
Aspiration hazard:	No data available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity: No data available.

12. 2 Persistence and degradability: No data available.

12.3 Bioaccumulative potential: No data available.

12.4 Mobility in soil: No data available.

12.5 Results of PBT and vPvB assessment: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

Product: Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging: Dispose of as unused product.

14. TRANSPORT INFORMATION

U.S. Department of Transportation (DOT): Not dangerous goods.

International Maritime Dangerous Goods (IMDG): Not dangerous goods.

ADR – European agreement concerning the international carriage of dangerous goods by road: Not regulated.

15. REGULATORY INFORMATION

SARA 302 components: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 components: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 hazards: No SARA hazards.

Massachusetts Right to Know Components: No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right to Know Components: CAS No. 9067-32-7

New Jersey Right to Know components: CAS No. 9067-32-7

California Prop. 65 components: This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

HMIS Rating

Health hazard: 0

Chronic Health Hazard: 0

Flammability 0

Physical Hazard: 0

NFPA Rating

Health hazard: 0

Fire Hazard: 0

Reactivity Hazard 0