

MATERIAL SAFETY DATA SHEET

Levonorgestrel

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Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108

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1. Product and Company Identification

Product Code: 10006318
Product Name: Levonorgestrel
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335
Chemical Family: Miscellaneous
CAS Number: 797-63-7
Synonyms: 13-ethyl-17.alpha.-hydroxy-18,19-dinorpregn-4-en-20-yn-3-one; Norplant;

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Levonorgestrel implants	797-63-7	100.0 %	No data.	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Levonorgestrel implants	JF8259000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): Harmful by inhalation, ingestion, or skin absorption.
Limited evidence of a carcinogenic effect.
Material may be irritating to the mucous membranes and upper respiratory tract.
May cause eye, skin, or respiratory system irritation.
The toxicological properties of this compound have not been fully evaluated.
LD 50 / LC 50: Please refer to Section 11.
Signs and Symptoms Of Exposure: No data available.

4. First Aid Measures

Emergency and First Aid Procedures: If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.
In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initial flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eyes examined and tested by medical personnel.
In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

5. Fire Fighting Measures

Flash Pt: No data.
Explosive Limits: LEL: No data. UEL: No data.
Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Flammable Properties and Hazards: Emits toxic fumes under fire conditions.
Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.

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Unsuitable Extinguishing Media: No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
Vacuum or sweep up material and place in disposal container.
Avoid raising dust.
After removal, ventilate contaminated area and flush thoroughly with water.

7. Handling and Storage

Hazard Label Information: Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation.
Wash thoroughly after handling.

Precautions To Be Taken in Handling: Avoid breathing (dust, vapor, mist, gas).
Avoid contact with eyes, skin, and clothing.
Avoid prolonged or repeated exposure.
Do not reuse this container.
Use with adequate ventilation.
Wash thoroughly after handling.

Precautions To Be Taken in Storing: Keep tightly closed.
Store at correct temperature.

8. Exposure Controls/Personal Protection

Protective Equipment Summary - Hazard Label Information: Eye wash station in work area Lab coat Latex disposable gloves Safety glasses Safety shower in work area Vent Hood

Respiratory Equipment (Specify Type): No data available.

Eye Protection: Safety glasses

Protective Gloves: Latex disposable gloves

Other Protective Clothing: Lab coat

Engineering Controls (Ventilation etc.): Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Work/Hygienic/Maintenance Practices: Do not take internally.
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Wash thoroughly after handling.

9. Physical and Chemical Properties

Physical States: [] Gas [] Liquid [X] Solid

Melting Point: No data.

Boiling Point: No data.

Autoignition Pt: No data.

Flash Pt: No data. Method:

Explosive Limits: LEL: No data. UEL: No data.

Specific Gravity (Water = 1): No data.

Vapor Pressure (vs. Air or mm Hg): No data.

Vapor Density (vs. Air = 1): No data.

Evaporation Rate (vs Butyl Acetate=1): No data.

Solubility in Water: 0.3 mg/ml* at 25.0 C

Other Solubility Notes: *DMSO:PBS pH 7.2 (1:2); also sol. in EtOH, DMF, and DMSO; see product insert.

Percent Volatile: No data.

Corrosion Rate: No data.

Formula: C₂₁H₂₈O₂

Molecular Weight: 312.50

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pH: No data.
Appearance and Odor: A crystalline solid

10. Stability and Reactivity

Stability: Unstable [] Stable [X]
Conditions To Avoid - Instability: protect from moisture
Incompatibility - Materials To Avoid: strong oxidizing agents
Hazardous Decomposition Or Byproducts: carbon dioxide
carbon monoxide
Hazardous Polymerization: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization: No data available.

11. Toxicological Information

Toxicological Information: The toxicological effects of this compound have not been thoroughly studied.

Toxicity Data:

Oral LD50 (rat): >5000 mg/kg
Intraperitoneal LD50 (rat): 1470 mg/kg
Subcutaneous LD50 (rat): >5 g/kg
Oral LD50 (mouse): >5000 mg/kg
Intraperitoneal LD50 (mouse): 2990 mg/kg
Subcutaneous LD50 (mouse): >5 g/kg

Chronic Toxicological Effects: Investigated as a teratogen and reproductive effector.

Target Organ Data:

Effects on embryo or fetus (fetal death)
Effects on embryo or fetus (fetotoxicity)
Effects on fertility (female fertility index)
Effects on fertility (mating performance)
Effects on fertility (other effects)
Effects on fertility (pre-implantation mortality)
Effects on newborn (stillbirth)
Effects on newborn (growth statistics)
Maternal effects (menstrual cycle changes or disorders)
Maternal effects (parturition)
Maternal effects (uterus, cervix, vagina)
Paternal effects (impotence)
Paternal effects (other effects on male)
Paternal effects (spermatogenesis)
Paternal effects (testes, epididymis, sperm duct)
Specific developmental abnormalities (musculoskeletal system)

Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.

See actual entry in RTECS for complete information.

Levonorgestrel RTECS Number: JF8259000

Carcinogenicity/Other Information: No data available.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

Ecological Information: Runoff from fire control or dilution water may cause pollution.

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13. Disposal Considerations

Waste Disposal Method: Dispose in accordance with local, state and federal regulations.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name No data available.

Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Levonorgestrel implants	797-63-7	No	No	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Levonorgestrel implants	797-63-7	No	No	No	Yes

16. Other Information

Company Policy or Disclaimer

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