



# MATERIAL SAFETY DATA SHEET

Revision date: 15-Dec-2006

Version: 1.1

Page 1 of 7

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

**Pfizer Inc**  
**Pfizer Pharmaceuticals Group**  
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Emergency telephone number:  
CHEMTREC (24 hours): 1-800-424-9300

Emergency telephone number:  
ChemSafe (24 hours): +44 (0)208 762 8322

### Material Name: Norethisterone & Mestranol Tablets

**Trade Name:** Norinyl  
**Chemical Family:** Mixture  
**Intended Use:** Pharmaceutical product used as oral contraceptive.

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

### Hazardous

Ingredient	CAS Number	EU EINECS List	%
Mestranol	72-33-3	200-777-8	0.1
Corn Starch	9005-25-8	232-679-6	*
Magnesium stearate	557-04-0	209-150-3	*
Norethindrone Acetate	51-98-9	200-132-0	2

Ingredient	CAS Number	EU EINECS List	%
Lactose Monohydrate	64044-51-5	Not listed	*
Povidone	9003-39-8	Not listed	*

**Additional Information:** \* Proprietary  
Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety.

## 3. HAZARDS IDENTIFICATION

**Appearance:** White, pink tablets  
**Signal Word:** DANGER

**Statement of Hazard:** May cause cancer.  
May damage fertility or the unborn child.

**Additional Hazard Information:**  
**Short Term:** Not acutely toxic (based on components) . May be absorbed through the skin and cause systemic effects.

## MATERIAL SAFETY DATA SHEET

Material Name: Norethisterone & Mestranol Tablets  
Revision date: 15-Dec-2006

Page 2 of 7  
Version: 1.1

**Long Term:** Repeat-dose studies in animals have shown a potential to cause adverse effects on reproductive system, the developing fetus. Occupational studies have shown that males working with estrogen-like compounds have shown clinical signs of hyperestrogenism including enlarged breasts and milk secretion. Loss of libido, breast tenderness, and changes in sex hormone levels have also occurred. Occupational exposure in females has resulted in menstrual irregularities (breakthrough bleeding, menstrual flow changes, spotting and amenorrhea).

**Known Clinical Effects:** Clinical use of this drug has caused menstrual irregularities, changes in cervical erosion and secretion, yellowing of the skin, eyes, and mucous membranes (jaundice), depressive mood, weight changes, breast enlargement, breast pain, breast development in males (gynecomastia), nausea, vomiting, abdominal cramping, fluid retention, changes in sexual desire (libido), loss of hair, mental depression. Cardiovascular (blood clotting irregularities) and ocular (optic neuritis) effects have also been reported. The use of oral contraceptives is associated with increased risks of myocardial infarction, thromboembolism, stroke, hepatic neoplasia, and gallbladder disease.

**EU Indication of danger:** Carcinogenic: Category 1  
Toxic to reproduction: Category 1

**EU Hazard Symbols:**



**EU Risk Phrases:**

R45 - May cause cancer.  
R60 - May impair fertility.  
R61 - May cause harm to the unborn child.

**Note:** This document has been prepared in accordance with standards for workplace safety, which require the inclusion of all known hazards of the product or its ingredients regardless of the potential risk. The precautionary statements and warnings included may not apply in all cases. Your needs may vary depending upon the potential for exposure in your workplace.

### 4. FIRST AID MEASURES

**Eye Contact:** Immediately flush eyes with water for at least 15 minutes. If irritation occurs or persists, get medical attention.

**Skin Contact:** Remove clothing and wash affected skin with soap and water. If irritation occurs or persists, get medical attention. This material may not be completely removed by conventional laundering. Consult professional laundry service. Do not home launder.

**Ingestion:** Get medical attention immediately. Do not induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person.

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. Get medical attention.

### 5. FIRE FIGHTING MEASURES

**Extinguishing Media:** Use carbon dioxide, dry chemical, or water spray.

**Hazardous Combustion Products:** May include oxides of carbon.

**Fire Fighting Procedures:** Wear approved positive pressure, self-contained breathing apparatus and full protective turn out gear.

# MATERIAL SAFETY DATA SHEET

Material Name: Norethisterone & Mestranol Tablets  
Revision date: 15-Dec-2006

Page 3 of 7  
Version: 1.1

Fire / Explosion Hazards: Not determined

## 6. ACCIDENTAL RELEASE MEASURES

**Health and Safety Precautions:** Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure.

**Measures for Cleaning / Collecting:** Contain the source of spill if it is safe to do so. Collect spilled material by a method that controls dust generation. A damp cloth or a filtered vacuum should be used to clean spills of dry solids. Clean spill area thoroughly.

**Measures for Environmental Protections:** Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release.

**Additional Consideration for Large Spills:** Non-essential personnel should be evacuated from affected area. Report emergency situations immediately. Clean up operations should only be undertaken by trained personnel.

## 7. HANDLING AND STORAGE

**General Handling:** Avoid generating airborne dust. If tablets or capsules are crushed and/or broken, avoid breathing dust and avoid contact with eyes.

**Storage Conditions:** Store away from direct sunlight. Protect from moisture.

**Storage Temperature:** < 25 °C

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Mestranol**  
Pfizer OEL TWA-8 Hr: 0.1 ug/m<sup>3</sup>

**Corn Starch**  
OSHA - Final PELs - TWAs: = 15 mg/m<sup>3</sup> TWA total  
= 5 mg/m<sup>3</sup> TWA  
ACGIH Threshold Limit Value (TWA) = 10 mg/m<sup>3</sup> TWA  
Australia TWA = 10 mg/m<sup>3</sup> TWA

**Magnesium stearate**  
ACGIH Threshold Limit Value (TWA) = 10 mg/m<sup>3</sup> TWA except stearates of toxic metals  
Australia TWA = 10 mg/m<sup>3</sup> TWA

**Norethindrone Acetate**  
Pfizer OEL TWA-8 Hr: 0.8 ug/m<sup>3</sup>, Skin  
The exposure limit(s) listed for solid components are only relevant if dust may be generated.

**Analytical Method:** Analytical method available for Mestranol, Norethindrone Acetate. Contact Pfizer Inc for further information.

**Engineering Controls:** Engineering controls should be used as the primary means to control exposures. Good general ventilation should be sufficient to control airborne levels.

### Personal Protective Equipment:

**Hands:** Not required for the normal use of this product. Wear protective gloves when working with large quantities.

**Eyes:** Not required under normal conditions of use. Wear safety glasses or goggles if eye contact is possible.

# MATERIAL SAFETY DATA SHEET

Material Name: Norethisterone & Mestranol Tablets  
Revision date: 15-Dec-2006

Page 4 of 7  
Version: 1.1

**Skin:** Not required for the normal use of this product. Wear protective clothing when working with large quantities.

**Respiratory protection:** Not required for the normal use of this product. If the applicable Occupational Exposure Limit (OEL) is exceeded, wear an appropriate respirator with a protection factor sufficient to control exposures to below the OEL.

## 9. PHYSICAL AND CHEMICAL PROPERTIES:

<b>Physical State:</b>	Tablet	<b>Color:</b>	White, pink
<b>Molecular Formula:</b>	Mixture	<b>Molecular Weight:</b>	Mixture

## 10. STABILITY AND REACTIVITY

**Stability:** Stable under normal conditions of use.

**Conditions to Avoid:** None for the normal use of this material

**Incompatible Materials:** No data available

## 11. TOXICOLOGICAL INFORMATION

**General Information:** The information included in this section describes the potential hazards of the individual ingredients.

### Acute Toxicity: (Species, Route, End Point, Dose)

#### **Norethindrone Acetate**

Rat Oral LD50 > 5010 mg/kg  
Mouse Oral LD50 > 5010 mg/kg

#### **Mestranol**

Rat Oral LD 50 >10 g/kg

#### **Lactose Monohydrate**

Rat Oral LD 50 29700 mg/kg

#### **Magnesium stearate**

Rat Oral LD50 > 2000 mg/kg  
Rat Inhalation LC50 > 2000 mg/m<sup>3</sup>

**Acute Toxicity Comments:** A greater than symbol (>) indicates that the toxicity endpoint being tested was not achievable at the highest dose used in the test.

### Repeated Dose Toxicity: (Duration, Species, Route, Dose, End Point, Target Organ)

#### **Mestranol**

30 Day(s) Rat Oral 300 mg/kg LOEL Blood, Thymus

### Reproduction & Development Toxicity: (Duration, Species, Route, Dose, End Point, Effect(s))

#### **Norethindrone Acetate**

Embryo / Fetal Development	Rat	No route specified	1 mg/kg/day	LOEL	Teratogenic
Embryo / Fetal Development	Mouse	No route specified	0.5 mg/kg/day	LOEL	Teratogenic
Embryo / Fetal Development	Rat	No route specified	3.5 mg/kg/day	NOAEL	Not Teratogenic

## MATERIAL SAFETY DATA SHEET

Material Name: Norethisterone & Mestranol Tablets  
Revision date: 15-Dec-2006

Page 5 of 7  
Version: 1.1

### Mestranol

Reproductive & Fertility Mouse Oral 0.05 mg/kg/day LOEL Embryotoxicity, Not teratogenic  
Reproductive & Fertility Dog Oral 5 mg/kg/day LOEL Embryotoxicity, Not Teratogenic

### Genetic Toxicity: (Study Type, Cell Type/Organism, Result)

#### Norethindrone Acetate

Bacterial Mutagenicity (Ames) *Salmonella* Negative  
*In Vitro* Chromosome Aberration Human Lymphocytes Positive  
*In Vitro* Sister Chromatid Exchange Human Lymphocytes Negative  
*In Vivo* Unscheduled DNA Synthesis Rat Hepatocyte Positive  
*In Vivo* Direct DNA Damage Mouse Negative

### Mestranol

*In Vitro* Cytogenetics Positive  
Chromosome Aberration Positive  
Unscheduled DNA Synthesis Positive

### Carcinogenicity: (Duration, Species, Route, Dose, End Point, Effect(s))

#### Norethindrone Acetate

2 Year(s) Male Rat Oral 3-4 mg/kg/day LOEL Malignant tumors, Liver  
2 Year(s) Female Rat Oral 3-4 mg/kg/day LOEL Tumors, Female reproductive system  
104 Week(s) Male Rat Intramuscular 10 mg/kg/day LOEL Malignant tumors, Mammary gland, Liver, Endocrine system  
104 Week(s) Female Rat Intramuscular 10 mg/kg/day LOEL Malignant tumors, Liver, Mammary gland

### Mestranol

74 Week(s) Mouse Oral 10-12.5 ug/day LOEL Tumors, Female reproductive system  
8 Month(s) Male Mouse Oral 0.1 mg/kg/day LOEL Tumors, Mammary gland  
4.5-5 Year(s) Female Dog No route specified 0.02 mg/kg/day NOEL Tumors, Mammary gland

**Carcinogen Status:** See below

#### Norethindrone Acetate

**IARC:** Group 2B  
**NTP:** Listed  
**OSHA:** Present

#### Povidone

**IARC:** Group 3

#### Mestranol

**IARC:** Group 1  
**NTP:** Listed  
**OSHA:** Present

## 12. ECOLOGICAL INFORMATION

### Environmental Overview:

The environmental characteristics of this material have not been fully evaluated. Releases to the environment should be avoided.

## MATERIAL SAFETY DATA SHEET

Material Name: Norethisterone & Mestranol Tablets  
Revision date: 15-Dec-2006

Page 6 of 7  
Version: 1.1

### 13. DISPOSAL CONSIDERATIONS

**Disposal Procedures:** Dispose of waste in accordance with all applicable laws and regulations.

### 14. TRANSPORT INFORMATION

Not regulated for transport under USDOT, EUADR, IATA, or IMDG regulations.

### 15. REGULATORY INFORMATION

**EU Symbol:** T  
**EU Indication of danger:** Carcinogenic: Category 1  
Toxic to reproduction: Category 1

**EU Risk Phrases:**  
R45 - May cause cancer.  
R60 - May impair fertility.  
R61 - May cause harm to the unborn child.

**EU Safety Phrases:**  
S36/37 - Wear suitable protective clothing and gloves.  
S45 - In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).  
S53 - Avoid exposure - obtain special instructions before use.

**OSHA Label:**  
DANGER  
May cause cancer.  
May damage fertility or the unborn child.

#### Canada - WHMIS: Classifications

**WHMIS hazard class:**  
Class D, Division 2, Subdivision A



#### **Mestranol**

**California Proposition 65**

carcinogen, initial date 4/1/88  
developmental toxicity, initial date 4/1/90 (when mixed with  
Norethisterone)

**Australia (AICS):  
Standard for the Uniform Scheduling  
for Drugs and Poisons:**

Present  
Schedule 4

# MATERIAL SAFETY DATA SHEET

Material Name: Norethisterone & Mestranol Tablets  
Revision date: 15-Dec-2006

Page 7 of 7  
Version: 1.1

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EU EINECS List	200-777-8
<b>Corn Starch</b>	
Inventory - United States TSCA - Sect. 8(b)	XU
Australia (AICS):	Present
EU EINECS List	232-679-6
<b>Lactose Monohydrate</b>	
Australia (AICS):	Present
<b>Magnesium stearate</b>	
Inventory - United States TSCA - Sect. 8(b)	Present
Australia (AICS):	Present
EU EINECS List	209-150-3
<b>Povidone</b>	
Inventory - United States TSCA - Sect. 8(b)	XU
Australia (AICS):	Present
<b>Norethindrone Acetate</b>	
California Proposition 65	developmental toxicity, initial date 10/1/91
Australia (AICS):	Present
EU EINECS List	200-132-0

## 16. OTHER INFORMATION

**Reasons for Revision:** Updated Section 3 - Hazard Identification. Updated Section 6 - Accidental Release Measures. Updated Section 8 - Exposure Controls / Personal Protection. Updated Section 13 - Disposal Considerations.

**Prepared by:** Toxicology and Hazard Communication  
Pfizer Global Environment, Health, and Safety

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**End of Safety Data Sheet**