Schering-Plough HealthCare Products, Inc.
3030 Jackson Avenue
Memphis, TN 38151

MATERIAL SAFETY DATA SHEET

Schering-Plough urges each user or recipient of this MSDS to read the entire data sheet to become aware of the hazards associated with this material.

SECTION 1. IDENTIFICATION OF SUBSTANCE AND CONTACT INFORMATION

MSDS NAME: **Aftate Powder Sprays**

SYNONYM(S): Aftate Jock Itch Spray Powder
Aftate Athlete's Foot Spray Powder

MSDS NUMBER: SP001451

EMERGENCY NUMBER(S): Schering-Plough Security Control Center (908) 820-6921 (24 hours)

Safety/Environmental Affairs (901) 320-2384

Transportation Emergencies - CHEMTREC:
(800) 424-9300 (Inside Continental USA)
(703) 527-3887 (Outside Continental USA)

INFORMATION: Safety/Environmental Affairs (901) 320-2384

SCHERING-PLOUGH MSDS HELPLINE: (800) 770-8878 (US and Canada)
(908) 473-3371 (Worldwide)
Monday to Friday, 9am to 5pm (US Eastern Time) .

SECTION 2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Powder aerosol
White
Characteristic odor

Flammable.

Harmful by inhalation.
May be irritating to respiratory system.

POTENTIAL HEALTH EFFECTS:

The toxicological properties of this material have not been fully characterized in humans. Therefore, laboratory or process control systems and appropriate work practices should be in place to minimize the potential for inhalation exposure, skin contact, eye contact, or ingestion when working with this material. Only information about the ingredients that are expected to contribute significantly to the potential health hazard profile of the formulation(s) are presented.

These products have been shown to be not irritating and not sensitizing to human skin. Eye contact may cause slight eye irritation with temporary stinging, redness, tearing, and increased blinking.

Prolonged exposure to talc may cause eye irritation. Acute aspiration of talc may cause vomiting, fluid in the lungs and irritation of the lungs including cough, sneezing, shortness of breath, and rapid breathing. Long-term inhalation exposure may cause permanent lung damage characterized by chest expansion, fibrosis and lesions. Ingestion of large amounts may cause stomach distress including irritation, nausea and diarrhea.

Isobutane, the propellant component of this product, is a non-toxic gas. However, it is an asphyxiant and exposure to high concentrations may cause dizziness, fatigue, decreased vision, mood disturbances, numbness of extremities, headache, confusion, incoordination, cyanosis (blue or purple discoloration of the skin due to lack of oxygen), nausea, vomiting, coughing, pulmonary irritation, or anesthesia. Intentional misuse by deliberately concentrating and inhaling asphyxiant gases can be harmful or fatal. Direct contact with liquefied isobutane causes frostbite and/or burns.

Ethanol (ethyl alcohol) is an eye, nose, and mucous membrane irritant. It may cause skin irritation or sensitization after prolonged exposure. Acute effects of ethanol may include headache, dizziness, nausea, sensations of warmth and cold, numbness, fatigue, breathing difficulty, cough, tearing, vision impairment, incoordination, decreased reaction time, alteration of mood and personality, slurred speech, coma and respiratory depression. Chronic effects may include concentration difficulty, sleepiness, kidney and liver damage, and cardiac effects. Chronic ingestion of ethanol may cause cancer of the oral cavity, pharynx, larynx, esophagus, and liver. Oral ingestion of alcohol during pregnancy may cause Fetal Alcohol Syndrome (FAS) including joint, limb, and cardiac abnormalities and behavioral and learning impairment. There have been no reports of FAS as a result of occupational handling of ethanol.

LISTED CARCINOGENS

CHEMICAL NAME	CAS NUMBER	OSHA	IARC	NTP	ACGIH
Ethyl Alcohol.	64-17-5				Group A4 Not classifiable as a human carcinogen.
Talc (non-asbestos form).	14807-96-6	Not classifiable.	3 Classification not possible from current data.		Not classifiable.

Ethanol (ethyl alcohol): IARC (International Agency for Research on Cancer) has classified Alcoholic Beverages as Group 1 (indicating in their evaluation that the agent is carcinogenic to humans). However, occupational handling or manufacturer's specified use of this product is not expected to result in relevant exposures.

SECTION 3. COMPOSITION AND INFORMATION ON INGREDIENTS

PRODUCT USE: Consumer product

CHEMICAL FORMULA: Mixture.

The formulations for these products are proprietary information. These formulations have the same hazardous profile; however, the presence of hazardous ingredients may vary by formulation. Only hazardous ingredients in concentrations of 1% or greater and/or carcinogenic ingredients in concentrations of 0.1% or greater are listed in the Chemical Composition table. Active ingredients in any concentration are listed.

CHEMICAL COMPOSITION

CHEMICAL NAME	CAS NUMBER	PERCENT
Isobutane.	75-28-5	70-80
Ethyl Alcohol.	64-17-5	
Talc (non-asbestos form).	14807-96-6	8
Tolnaftate.	2398-96-1	0.09

ADDITIONAL INFORMATION: This MSDS is written to provide health and safety information for individuals who will be handling the final product formulation during research, manufacturing, and distribution. For health and safety information for individual ingredients used during manufacturing, refer to the appropriate MSDS for each ingredient. Refer to the package insert or product label for handling guidance for the consumer.

SECTION 4. FIRST AID MEASURES

INHALATION: Remove to fresh air. If any trouble breathing, get immediate medical attention. Administer artificial respiration if breathing has ceased. If irritation or symptoms occur or persist, consult a physician.

SKIN CONTACT: In keeping with good hygienic practices, wash exposed areas thoroughly with soap and water.

SECTION 4. FIRST AID MEASURES

EYE CONTACT: In case of eye contact, immediately rinse eyes thoroughly with plenty of water. If wearing contact lenses, remove only after initial rinse, and continue rinsing eyes for at least 15 minutes. If irritation occurs or persists, consult a physician.

INGESTION: Rinse mouth and drink a glass of water. Do not induce vomiting unless under the direction of a qualified medical professional or Poison Control Center. If symptoms persist, consult a physician.

SECTION 5. FIRE FIGHTING MEASURES

FLAMMABILITY DATA:

Flash Point:	-84.4 deg C (-120 deg F) (Isobutane)
UEL:	8.4 vol % (Isobutane)
LEL:	1.8 vol % (Isobutane)

SPECIAL FIRE FIGHTING PROCEDURES:
Wear full protective clothing and self-contained breathing apparatus (SCBA).

SUITABLE EXTINGUISHING MEDIA:
Carbon dioxide (CO2), extinguishing powder or water spray.

See Section 9 for Physical and Chemical Properties.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:
Wear appropriate personal protective equipment as specified in Section 8. Keep personnel away from the clean-up area.

SPILL RESPONSE / CLEANUP:
All spills should be handled according to site requirements and based on precautions cited in the MSDS. In the case of liquids, use proper absorbent materials. For laboratories and small-scale operations, incidental spills within a hood or enclosure should be cleaned by using a HEPA filtered vacuum or wet cleaning methods as appropriate. For large dry or liquid spills or those spills outside enclosure or hood, appropriate emergency response personnel should be notified. In manufacturing and large-scale operations, HEPA vacuuming prior to wet mopping or cleaning is required.

See Sections 9 and 10 for additional physical, chemical, and hazard information.

SECTION 7. HANDLING AND STORAGE

HANDLING:
Ensure adequate ventilation. Keep containers tightly closed when not in use.

STORAGE:
Keep away from heat, sparks, open flames, and direct sunlight. Store in a cool, dry, well ventilated area.

See Section 8 for exposure controls and additional safe handling information.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE CONTROLS:
For laboratories and small-scale operations, essentially no open handling. Open handling of small quantities may be performed if there is no potential for dust or aerosol generation. For larger quantities or materials that may become airborne, materials should be handled in a properly functioning chemical fume hood, ventilated enclosure or controlled by local exhaust ventilation.

For manufacturing and large-scale operations, essentially no open handling. Open handling is limited to small quantities in appropriately ventilated, enclosed environments. For larger quantities or materials that may become airborne, enclosed processes and the use of containment technology are preferred. Recirculation of general ventilation or local exhaust ventilation is not permitted unless appropriate scrubbing or filtration of incoming recirculated air is controlled.

RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT (PPE):

Respiratory Protection: In laboratories and small-scale operations, respirators are not normally required; however, appropriate respiratory protection may be required in situations where exposure (e.g. spills, process upsets, or non-routine maintenance) may exceed any available recommended exposure limit. Consult your site safety staff for guidance.

In manufacturing and large-scale operations, powered air purifying respirators (PAPRs) or positive-pressure air supplied respirators with full-face coverage may be required dependent on the level of exposure. Appropriate respiratory protection is required in situations where exposure (e.g. spills, process upsets, or non-routine maintenance) may exceed any available recommended exposure limit. Consult your site safety staff for guidance.

Skin Protection: Gloves that provide an appropriate barrier to the skin are recommended if there is potential for contact with this material. Consult your site safety staff for guidance.

Eye Protection: Safety glasses with side shields. Use of goggles or full face protection may be required based on hazard, potential for contact, or level of exposure. Consult your site safety staff for guidance.

Body Protection: In small scale or laboratory operations, lab coats or other equivalent protective clothing is required. In large-scale or manufacturing operations, lab coats or other equivalent protective clothing is required.

EXPOSURE LIMIT VALUES

CHEMICAL NAME	CAS NUMBER	ACGIH TLV (TWA)	OSHA PEL (TWA)
Ethyl Alcohol.	64-17-5	1000 ppm	1900 mg/m^3 1000 ppm
Talc (non-asbestos form).	14807-96-6	2 mg/m^3 Respirable fraction. The value is for particulate matter containing no asbestos and <1% crystalline silica.	20 mppcf (containing <1% quartz)

CHEMICAL NAME	CAS NUMBER	ACGIH TLV (STEL / SKIN)	ACGIH TLV (CEIL)	OSHA PEL (STEL / SKIN)	OSHA PEL (CEIL)
Talc (non-asbestos form).	14807-96-6			20 mppcf (containing <1% quartz)	

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

FORM: Powder aerosol
COLOR: White
ODOR: Characteristic odor
VAPOR PRESSURE: 35 to 50 psi @ 25 deg C
SOLUBILITY:
Water: Not determined

See Section 5 for flammability/explosivity information.

SECTION 10. STABILITY AND REACTIVITY

STABILITY/ REACTIVITY:
Stable under normal conditions.

INCOMPATIBLE MATERIALS / CONDITIONS TO AVOID:
Oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS / REACTIONS:
Carbon oxides (COx).

SECTION 11. TOXICOLOGICAL INFORMATION

The toxicological properties of the mixture(s) have not been fully characterized in humans or animals. The information presented below pertains to the formulated product unless indicated otherwise.

ACUTE TOXICITY DATA

EXPOSURE ROUTE	STUDY DESCRIPTION	RESULT
Inhalation	LC50	Practically not toxic
Skin	Skin Sensitization (Human RIPT)	Not sensitizing
Skin	Skin Irritation	Not irritating
Eye	Eye Irritation	Slightly irritating

INHALATION:
Isobutane caused CNS depression, rapid and shallow respiration, and apnea in mice exposed to high concentrations. In dogs, 45% isobutane caused anesthetic effects.

Ethanol, at high concentrations, caused dose dependent effects following inhalation exposure in rats on the central nervous system including drowsiness, incoordination, narcosis and excitation.

REPEAT DOSE TOXICITY DATA

SUBCHRONIC / CHRONIC TOXICITY:
Repeated oral and inhalation exposure to high concentrations of ethanol has caused kidney and liver damage in animals.

REPRODUCTIVE / DEVELOPMENTAL TOXICITY:
Talc was not teratogenic when evaluated in animals following oral administration.

Ethanol: Exposure to large doses during gestation is reported to cause effects on reproduction, including fetotoxicity and growth retardation in mice, rats, and rabbits. However, no teratogenic effects were reported.

MUTAGENICITY / GENOTOXICITY:
Tolnaftate was negative in an in vitro chromosome aberration study and in a mutagenicity test with Neurospora crassa.

Isobutane was negative in a bacterial mutagenicity study (Ames).

Ethanol was positive in a bacterial mutagenicity study (Ames) and negative in a mammalian mutagenicity study (mouse lymphoma).

CARCINOGENICITY:
This material or product has not been evaluated for carcinogenicity.

Rats and mice were exposed to aerosols containing 6 or 18 mg/m^3 talc (cosmetic grade, non-asbestiform) up to 122 weeks. An increased incidence of benign and malignant pheochromocytomas of the adrenal gland, alveolar/bronchiolar adenomas and carcinomas of the lung was observed in rats. The only effects observed in mice were chronic active inflammation and the accumulation of macrophages in the lung.

Rats given 25 to 50% ethanol by oral gavage or in the drinking water for one to two years did not show a significant increase in tumors compared to the control groups. Mice given 43% ethanol in drinking water for three years showed an increase in papillomas of the forestomach, malignant lymphomas and lung adenomas. Ethanol was an effective promoter of liver tumors in rats given a single intraperitoneal dose of diethylnitrosamine followed by treatment of ethanol in the drinking water for 12 to 18 months.

SECTION 12. ECOLOGICAL INFORMATION

There are no data for the final product or its formulation(s). The information presented below pertains to the following ingredient(s).

ECOTOXICITY DATA

INGREDIENT ECOTOXICITY

Ethanol: 96-hr (static) LC50 (rainbow trout): 13 g/L
Ethanol: 96-hr (flow-through) LC50 (fathead minnow): 12.9-15.3 g/L
Ethanol: Toxicity threshold-cell multiplication Inhibition test (green algae): 5000 mg/L

ENVIRONMENTAL DATA

There are no environmental data available for this material.

SECTION 13. DISPOSAL CONSIDERATIONS

MATERIAL WASTE:
Disposal must be in accordance with applicable federal, state/provincial, and/or local regulations. Incineration is not the preferred method of disposal. Operations that involve the crushing or shredding of waste materials or returned goods must be handled to meet the recommended exposure limit(s).

PACKAGING AND CONTAINERS:
Disposal must be in accordance with applicable federal, state/provincial, and/or local regulations.

SECTION 14. TRANSPORT INFORMATION

This material is not subject to the transportation regulations of DOT, IATA, IMO, and the ADR.

DOT CLASSIFICATION:

Proper Shipping Name:	Aerosols
Hazard Class:	2.1
UN Number:	UN 1950
Packing Group:	None

IATA CLASSIFICATION:

Proper Shipping Name:	Aerosols, flammable
Hazard Class:	2.1
UN Number:	UN 1950
Packing Group:	None

ADR CLASSIFICATION:

Proper Shipping Name:	Aerosols
Hazard Class:	2.1
UN Number:	UN 1950
Packing Group:	None

IMDG CLASSIFICATION:

Proper Shipping Name:	Aerosols
Hazard Class:	2
UN Number:	UN 1950
Packing Group:	None

SECTION 15. REGULATORY INFORMATION

TSCA LISTING

CHEMICAL NAME	TSCA
Isobutane.	Listed.
Ethyl Alcohol.	Listed
Talc (non-asbestos form).	Listed
Tolnaftate.	Listed

U.S. STATE REGULATIONS

CHEMICAL NAME	California Proposition 65	CARTK	NJRTK	CTRTK	MARTK
Isobutane.			Substance no. 1040 Listed.		Listed.
Ethyl Alcohol.		Listed.	Substance no. 0844 Listed.	Listed.	Listed.
Talc (non-asbestos form).	Not applicable.	Listed.	Substance no. 1773 Listed.		Listed.

CHEMICAL NAME	PARTK	MNRTK	MIRTK	ILRTK	LARTK	RIRTK
Isobutane.	Listed.					
Ethyl Alcohol.	Listed.	Listed.		Listed.		Listed.
Talc (non-asbestos form).	Listed.	Listed.		Listed.		Listed.

SECTION 16. OTHER INFORMATION

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained therein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequence of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

DEPARTMENT ISSUING MSDS:

Global Safety and Environmental Affairs
Occupational and Environmental Toxicology
Schering-Plough Corporation
556 Morris Avenue
Summit, NJ 07901 USA.

SCHERING-PLOUGH MSDS HELPLINE:	(800) 770-8878 (US and Canada) (908) 473-3371 (Worldwide) Monday to Friday, 9am to 5pm (US Eastern Time) .
MSDS CREATION DATE:	04-Feb-1997