



MATERIAL SAFETY DATA SHEET

PERMENE PLUS®

ASTRA INDUSTRIAL COMPLEX CO., LTD. (ASTRACHEM)
P.O. Box 30447, AL-KHOBAR 31952
KINGDOM OF SAUDI ARABIA

1. PRODUCT IDENTIFICATION

Product Name: *PERMENE PLUS*
Chemical Class: Pyrethroid Insecticide
Use: *PERMENE PLUS* is a public health insecticide, effective for the control of a broad range of flying and crawling insects pests.
Producer: **Astra Industrial Complex Co., Ltd.**
P.O. Box 30447, Al-Khobar 31952
Kingdom of Saudi Arabia
Emergency Tel.# (+966) 3 8121 406

2. COMPOSITION / INFORMATION ON INGREDIENTS

Substance	Chemical structure	Contents (g / L)
S-bioallethrin CAS No. 28434-00-6 Chemical Name (IUPAC): (S)-3-allyl-2-methyl-4-oxocyclopent-2-enyl (1R,3R)-2,2-dimethyl-3-(2-methylprop-1-enyl)cyclopropanecarboxylate		9.0 -11.0
Permethrin (Sis: trans ration 25:75) CAS No. 7696-12-0 Chemical Name (IUPAC): 3-phenoxybenzyl (1RS,3RS;1RS,3SR)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate		90.0-100.0
Piperonyl Butoxide CAS No. 51-03-6 Chemical Name (IUPAC): 5-[2-(2-butoxyethoxy)ethoxymethyl]-6-propyl-1,3-benzodioxole; 2-(2-butoxyethoxy)ethyl 6-propylpiperonyl ether		99.0 -121.0



3. HAZARD IDENTIFICATION

ACUTE EFFECTS

Physical hazards:

Moderately combustible liquid

Health hazards: Irritating to eyes and skin

Inhalation: Vapour or spray mist may be harmful if inhaled

Eye: Mild irritating to the eyes

Skin: Prolonged or repeated skin contact may cause irritation or sensitization

Ingestion: May be harmful if swallowed.

4. FIRST AID MEASURES

First Aid:

Swallowed:

Provided the patient is conscious, wash out mouth with water and give 1 or 2 glasses of water to drink. Do not induce vomiting. Immediately transport victim to an emergency facility

Eye:

Irrigate for 20 minutes with copious quantities of water with eyelids held open. If irritation persists, repeat flushing. Seek medical attention immediately.

Skin:

Remove contaminated clothing. Flush skin with running water for a minimum of 20 minutes. If swelling, redness, blistering or irritation occurs seek medical attention immediately.

Inhalation:

Remove victim to fresh air. If not breathing, give artificial respiration preferably mouth-to-mouth. If breathing is labored, give oxygen. Obtain immediate medical attention.

Advice to doctor:

This product contains materials that may cause severe pneumonitis if aspirated. If ingestion has occurred less than 2 hours earlier, carry out careful gastric lavage; use endotracheal cuff if available, to prevent aspiration. Observe patient for respiratory difficulty from aspiration pneumonitis. Give artificial resuscitation and appropriate chemotherapy if respiration is depressed. Symptomatic treatment and supportive therapy as indicated.



5. FIRE FIGHTING MEASURES

Fire and Explosion Hazards:

Flash Point: 42.5°C

Flammable

Keep fire exposed containers cool by spraying with water.

Extinguishing Media:

For small fires, use foam, carbon dioxide or dry powder extinguishant. For large fires, use foam or water-fog; avoid use of water jet. Contain run-off water with for example, temporary earth barriers.

Protective Equipment:

A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

Unusual fire and explosion hazards:

Combustible liquid

6. ACCIDENTAL RELEASE MEASURES

Contain spill and absorb with sand or proprietary absorbent (vermiculite). Prevent from entering drains, waterway or sewers. Collect in sealed open top containers for disposal. Generously cover the contaminated areas with common, household detergent brush and small amounts of water, work the detergent into the remaining spilled material forming slurry. Collect slurry in sealed open top container for disposal.

Disposal:

Triple rinse containers, add rinsate to the spray tank, then offer container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations. On-site disposal of concentrate is not acceptable.

Wastes disposal by industrial incineration or burial at a site approved by local authorities.



7. HANDLING AND STORAGE

Keep in original containers, tightly closed and locked up. Keep out of the reach of children and away from food.

Avoid breathing vapors or spray mist. Use normal good industrial hygiene and housekeeping practices.

Ideal storage temperature is 10-27°C. Do not expose sealed containers to temperature above 40°C.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Standards:

For organic solvent.8 h, TWA, 150 mg/m³

Engineering Controls:

Natural ventilation only required when handling the concentrate. A local exhaust should be used in confined areas to keep the level of solvent within acceptable limits.

Personnel Protection:

Facial skin contact may cause temporary facial numbness. Sensitive workers should use protective clothing. Avoid contact with eyes and skin. Do not inhale spray mist. When preparing spray wear cotton overalls buttoned to the neck and wrist and washable hat, elbow-length PVC gloves and face shield or goggles. After use and before eating, drinking or smoking wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear light yellow liquid free of visible impurities.
Odour	Slightly Aromatic
Density	0.944 ± 0.006 g/ml
Flash point	>40°C
Acidity as H ₂ SO ₄ :	<0.5 g/Kg
Water Content	< 2.0 g/Kg
Solubility in H ₂ O	Emulsifiable



10. STABILITY AND REACTIVITY

Stability:

Stable at room temperature.

Incompatibility:

Strong Oxidiz Agents. Acids and alkaline materials

Hazardous polymerization:

Will not occur.

Conditions to avoid:

Keep away from heat. Keep away from sources of ignition – No smoking.

Hazardous Decomposition Products:

Thermal decomposition products are toxic and may include hydrocarbons ammonia, organic and acid halides, oxide of carbon, nitrogen and Sulphur.

11. TOXICOLOGICAL INFORMATION

Formulation:

LD₅₀ Oral rat >10,000 mg/Kg

Additional information:

May cause skin irritation. In humans may cause tingling or numbness in exposed area (paraesthesia). The effect may result from splash, aerosol or transfer to the face from contaminated gloves and hands. This effect is transient, lasting up to 24 hours. There is no evidence of any long term or cumulative effects following repeated contamination Repeated and/or prolonged contact may cause skin sensitization.

Inhalation

Additional Information High concentrations of this product are irritating to the respiratory tract.

LC₅₀ Inhalation rat: 6,850 mg / m³ (3 h)

General Information:

Slight skin and eye irritant (rabbits) May be weak skin sensitizer.



12. ECOLOGICAL INFORMATION

Keep out of water supplies ground water or open water. This product is toxic to fish and wildlife.

Toxic to bees. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

13. DISPOSAL CONSIDERATION

Disposal Method:

Do not contaminate ponds, waterways or ditches with chemical or used containers. Dispose of in facility permitted for hazardous waste.

Container Disposal:

Empty container retains product residue. Triple rinse or equivalent, empty container, return rinse water to dilution mixture, and dispose of dilution mixture as a hazardous waste if it cannot be disposed of by use according to label instructions. Do not reuse container. Offer if for recycling or reconditioning, or puncture and dispose of in properly permitted landfill.

14. TRANSPORT INFORMATION

Proper Shipping Name	PYRETHROID PESTICIDE, LIQUID, TOXIC, FLAMMABLE, (Permethrin)
UN number	UN3351
Class	6.1
Packing Group	III
Marine Pollutant	Yes

15. REGULATORY INFORMATION.

Public Health Pest Control Product

16. OTHER INFORMATION

Buyer assumes all responsibility for safety and use not in accordance with the product label instructions.