



Material Safety Data Sheet

**BAYER ADVANCED 24 HOUR GRUB KILLER PLUS I
READY-TO-SPREAD GRANULES**

MSDS Number: 102000016526
MSDS Version 1.0
Revision Date: 07/02/2008

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name BAYER ADVANCED 24 HOUR GRUB KILLER PLUS I READY-TO-SPREAD GRANULES
MSDS Number 102000016526
EPA Registration No. 72155-83

Bayer Environmental Science
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)
For Product Information call: 1-800-331-2867

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Trichlorfon	52-68-6	9.30

SECTION 3. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview Caution! Harmful if swallowed. Do not breathe dust. Avoid contact with skin, eyes and clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Physical State dry, free flowing granules
Odor sweet
Appearance tan
Routes of Exposure Eye contact, Ingestion, Inhalation, Skin contact
Immediate Effects
Eye May cause eye irritation. Avoid contact with eyes.
Skin Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin and clothing.
Ingestion Harmful if swallowed. Do not take internally.
Inhalation Do not breathe dust.



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Chronic or Delayed Long-Term	This product or its components may have target organ effects. This product or its components may have long term (chronic) health effects.
Potential Environmental Effect	Toxic to fish, birds, and other wildlife.

SECTION 4. FIRST AID MEASURES

General	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
Eye	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.
Skin	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.
Inhalation	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.
Notes to Physician Hazards	This product is a cholinesterase inhibiting organophosphorous pesticide.
Treatment	ANTIDOTE: Atropine sulphate. 2-PAM is also antidotal and may be administered in conjunction with atropine. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5. FIRE FIGHTING MEASURES

Flash point	not applicable
Fire and Explosion Hazards	Accumulation of fine dust may entail the risk of a dust explosion in the presence of air. In the event of fire the following can be released: Nitrogen oxides (NOx) Carbon monoxide (CO)



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Suitable Extinguishing Media Water spray, Foam, Dry chemical, Carbon dioxide (CO2)

Fire Fighting Instructions Keep out of smoke. Fight fire from upwind position. Cool closed containers/ tanks exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods for Cleaning Up Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional Advice Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal.

SECTION 7. HANDLING AND STORAGE

Handling Procedures Use only in area provided with appropriate exhaust ventilation. Handle and open container in a manner as to prevent spillage.

Storing Procedures Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Work/Hygienic Procedures Remove Personal Protective Equipment (PPE) immediately after handling this product. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Protection There are no known hazards associated with this product when used according to the label directions. The following guidelines should be followed.

Avoid breathing dust. Avoid contact with skin and eyes.

Do not allow children or pets to enter the treated area until granules have been



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watered into the soil and the grass or soil is dry.

Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

Exposure Limits

Trichlorfon	52-68-6	ACGIH TX ESL TX ESL	TWA ST ESL AN ESL	1 mg/m3 50 ug/m3 5 ug/m3
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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	tan
Physical State	dry, free flowing granules
Odor	sweet
pH	4 - 5
Bulk Density	30 - 35 lb/ft ³

SECTION 10. STABILITY AND REACTIVITY

Incompatibility	Strong acids Oxidizing agents Bases
Hazardous Decomposition Products	Thermal decomposition can lead to release of: Nitrogen oxides (NOx) Carbon monoxide
Hazardous Reactions	No hazardous reactions when stored and handled according to prescribed instructions. Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on this product as formulated. The non-acute information pertains to the technical-grade active ingredient, trichlorfon.

Acute Oral Toxicity	female rat: LD50: > 5,000 mg/kg
Acute Dermal Toxicity	rat: LD50: > 5,000 mg/kg



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Skin Irritation	rabbit: Slight irritation.
Eye Irritation	rabbit: Moderate eye irritation.
Sensitization	guinea pig: Non-sensitizing.
Chronic Toxicity	Trichlorfon caused cholinesterase inhibition, anemia, hypercholesterolemia and/or organ effects (liver, kidney, lung, stomach, intestinal) in chronic studies in rats and monkeys.

Assessment Carcinogenicity

Trichlorfon was not carcinogenic in a lifetime feeding study in rats. In mice, trichlorfon caused an increased incidence of epithelial mammary tumors in females at the excessive high dose. Based on these findings, EPA has classified trichlorfon as "not likely to be carcinogenic to humans at low doses, but is likely to be carcinogenic at high doses."

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.

Reproductive & Developmental Toxicity	DEVELOPMENTAL TOXICITY: Trichlorfon is not considered a primary developmental toxicant in rats and rabbits. Developmental effects were observed at doses that caused maternal toxicity.
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Neurotoxicity	Trichlorfon caused neurobehavioral effects ascribed to cholinergic toxicity in acute and subchronic studies in rats. In addition, minimal micropathologic findings were observed in the neural tissues of high-dosed rats following subchronic exposure. In a one-generation developmental neurotoxicity study, neurobehavioral effects were observed in the offspring without any correlating micropathologic findings.
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Mutagenicity	Trichlorfon has produced some positive results in a battery of in vitro and in vivo tests.
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SECTION 12. ECOLOGICAL INFORMATION

Environmental Precautions	Do not allow to get into surface water, drains and ground water. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label.
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SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow container label instructions and applicable local guidelines. Never place unused product down any indoor or outdoor drain.

Container Disposal Do not re-use empty containers. Place empty container in trash. Follow advice on product label and/or leaflet.

SECTION 14. TRANSPORT INFORMATION

TRANSPORTATION CLASSIFICATION:
Not regulated for any mode of transport

FREIGHT CLASSIFICATION:
Insecticides or Fungicides, N.O.I.; other than poison

SECTION 15. REGULATORY INFORMATION

EPA Registration No. 72155-83

US Federal Regulations

TSCA list

None.

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

None.

SARA Title III - Section 302 - Notification and Information

None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

Trichlorfon 52-68-6 1.0%

US States Regulatory Reporting

CA Prop65

This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients

Trichlorfon 52-68-6 CA, CT, IL, NJ, PA

Canadian Regulations

Canadian Domestic Substance List

Trichlorfon 52-68-6



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Environmental

CERCLA

Trichlorfon

52-68-6

100 lbs

Clean Water Section 307 Priority Pollutants

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 1 Reactivity - 0 Others - none

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason to Revise: New Material Safety Data Sheet.

Revision Date: 07/02/2008

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.