



**Material Safety Data Sheet**

**BAYER ADVANCED ALL-IN-ONE LAWN WEED & CRABGRASS KILLER I READY-TO-USE**

MSDS Number: 102000020929  
 MSDS Version 1.0  
 Revision Date: 04/25/2008

**SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION**

**Product Name** BAYER ADVANCED ALL-IN-ONE LAWN WEED & CRABGRASS KILLER I  
 READY-TO-USE  
**MSDS Number** 102000020929  
**EPA Registration No.** 72155-85

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>
Quinclorac	84087-01-4	0.104
2,4-D, dimethylamine salt	2008-39-1	0.313
Dicamba, dimethylamine salt	2300-66-5	0.029

**SECTION 3. HAZARDS IDENTIFICATION**

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

**Emergency Overview** Caution! Harmful if swallowed. Moderate eye irritation. Avoid contact with skin, eyes and clothing.

**Physical State** liquid

**Appearance** brownish red

**Routes of Exposure** Eye contact, Skin contact, Inhalation, Ingestion

**Immediate Effects**

**Eye** Moderate eye irritation. Avoid contact with eyes.

**Skin** Moderate skin irritation. Avoid contact with skin and clothing.

**Ingestion** Harmful if swallowed. Do not take internally.

**Inhalation** Avoid breathing spray mist.

**Chronic or Delayed Long-Term** This product or its components may have target organ effects.



**Material Safety Data Sheet**

**BAYER ADVANCED ALL-IN-ONE LAWN WEED & CRABGRASS KILLER I READY-TO-USE**

MSDS Number: 102000020929  
MSDS Version 1.0

**Potential Environmental Effect** Toxic to fish and aquatic invertebrates.

**SECTION 4. FIRST AID MEASURES**

<b>General</b>	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<b>Eye</b>	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.
<b>Skin</b>	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.
<b>Ingestion</b>	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.
<b>Inhalation</b>	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.
<b>Notes to Physician Signs and Symptoms</b>	<p>Inhalation may provoke the following symptoms: cough discomfort in the chest dizziness</p> <p>Ingestion may provoke the following symptoms: Vomiting discomfort in the chest stomach pain Diarrhoea</p>
<b>Treatment</b>	There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

**SECTION 5. FIRE FIGHTING MEASURES**

<b>Flash point</b>	61.1 °C / 142.0 °F Test type: closed cup
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**Material Safety Data Sheet**

MSDS Number: 102000020929  
MSDS Version 1.0

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

**Fire Fighting Instructions** Fight fire from upwind position. Keep out of smoke. 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** Isolate hazard area. Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces.

**Methods for Cleaning Up** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). Keep in suitable, closed containers 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. Do not allow product to contact vegetation.

**SECTION 7. HANDLING AND STORAGE**

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

**Storing Procedures** Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container and out of the reach of children, preferably in a locked storage area. Protect from freezing.

**Work/Hygienic Procedures** Handle in accordance with good industrial hygiene and safety practice. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

Remove Personal Protective Equipment (PPE) immediately after handling this product. Remove soiled clothing immediately and clean thoroughly before using again. Before removing gloves clean them with soap and water. Wash thoroughly and put on clean clothing.

**SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**General Protection** Follow all label instructions. Train employees in safe use of the product.



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**BAYER ADVANCED ALL-IN-ONE LAWN WEED & CRABGRASS KILLER I READY-TO-USE**

MSDS Number: 102000020929  
MSDS Version 1.0

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

<b>Eye/Face Protection</b>	Chemical resistant goggles must be worn.
<b>Hand Protection</b>	Chemical resistant nitrile rubber gloves
<b>Body Protection</b>	Wear long-sleeved shirt and long pants and shoes plus socks.
<b>Respiratory Protection</b>	When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	brownish red
<b>Physical State</b>	liquid
<b>pH</b>	approx. 7 - 8 (100 %)
<b>Density</b>	1.00 g/cm <sup>3</sup> at 20 °C

**SECTION 10. STABILITY AND REACTIVITY**

<b>Conditions to Avoid</b>	Freezing
<b>Incompatibility</b>	Acids
<b>Hazardous Decomposition Products</b>	Thermal decomposition can lead to release of: Hydrogen chloride (HCl) Nitrogen oxides (NOx) Carbon monoxide
<b>Hazardous Reactions</b>	No hazardous reactions when stored and handled according to prescribed instructions. Stable under recommended storage conditions.

**SECTION 11. TOXICOLOGICAL INFORMATION**

Acute toxicity data have been bridged from a similar formulation containing a higher percentage of the active ingredients, Quinclorac, 2,4-D and Dicamba. The non-acute information pertains to the technical-grade active ingredients.



**Material Safety Data Sheet**

**BAYER ADVANCED ALL-IN-ONE LAWN WEED & CRABGRASS KILLER I READY-TO-USE**

MSDS Number: 102000020929  
MSDS Version 1.0

<b>Acute Oral Toxicity</b>	rat: LD50: > 2,000 mg/kg
<b>Acute Dermal Toxicity</b>	rabbit: LD50: > 2,000 mg/kg
<b>Acute Inhalation Toxicity</b>	rat: LC50: > 2.04 mg/l Exposure time: 4 h Determined in the form of liquid aerosol.  rat: LC50: > 8.16 mg/l Exposure time: 1 h Determined in the form of liquid aerosol. Extrapolated from the 4 hr LC50.
<b>Skin Irritation</b>	rabbit: Moderate skin irritation.
<b>Eye Irritation</b>	rabbit: Minimally irritating.
<b>Sensitization</b>	guinea pig: Non-sensitizing.
<b>Chronic Toxicity</b>	Quinlorac did not target any organs in chronic toxicity studies in rats and dogs.  2,4-D caused effects in the thyroid, eyes, kidneys, adrenals, and ovaries/testes at dose levels above the saturation of renal clearance in chronic studies in laboratory animals.  Dicamba did not target any organs in chronic toxicity studies in rats and dogs.

**Assessment Carcinogenicity**

Quinlorac was not carcinogenic in lifetime feeding studies in rats and mice. EPA has classified Quinlorac as a Group D chemical (not classifiable as to human carcinogenicity).

2,4-D was not carcinogenic in lifetime feeding studies in rats and mice. EPA has classified 2,4-D as a Group D chemical (not classifiable as to human carcinogenicity).

Dicamba was not carcinogenic in lifetime feeding studies in rats and mice. EPA has classified dicamba "not likely to be carcinogenic to humans."

- ACGIH**  
None.
- NTP**  
None.
- IARC**  
None.
- OSHA**  
None.

<b>Reproductive &amp; Developmental Toxicity</b>	<b>REPRODUCTION:</b> Quinlorac was not a reproductive toxicant in a two-generation study in rats.
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**Material Safety Data Sheet**

MSDS Number: 102000020929  
MSDS Version 1.0

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2,4-D caused reproductive toxicity at dose levels above the saturation of renal clearance in multi-generation studies in rats.

Dicamba was not a primary reproductive toxicant in a two-generation reproduction study in rats. Reproductive effects were observed only at doses that caused parental systemic toxicity. Offspring toxicity was manifested at a dose lower than parental systemic toxicity.

**DEVELOPMENTAL TOXICITY:**

Quinclorac was not a primary developmental toxicant in rats and rabbits. Developmental effects were observed in rabbits but were considered secondary to maternal toxicity.

2,4-D is not a primary developmental toxicant in rats and rabbits. Developmental effects were observed at doses that caused maternal toxicity.

Dicamba was not a primary developmental toxicant in rats and rabbits. Developmental effects were observed in rabbits but were considered secondary to maternal toxicity.

**Neurotoxicity**

Quinclorac did not demonstrate the potential to cause neurotoxicity in standard toxicity studies using mice, rats, rabbits and dogs.

2,4-D has demonstrated neurotoxicity in rats following acute and chronic exposure at dose levels above saturation of renal clearance.

Dicamba has demonstrated the potential to cause neurotoxicity at high doses in laboratory animals.

**Mutagenicity**

Quinclorac was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

2,4-D has been tested in both in vitro and in vivo genotoxicity tests and was not mutagenic, although some cytogenetic effects were observed.

Dicamba did not demonstrate evidence of mutagenic potential, although, some positive results have been reported in the published literature.

**SECTION 12. ECOLOGICAL INFORMATION**

**Environmental Precautions**

Do not allow to get into surface water, drains and ground water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Drift or runoff from treated areas may adversely affect non-target plants.



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MSDS Number: 102000020929  
MSDS Version 1.0

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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.

**SECTION 13. DISPOSAL CONSIDERATIONS**

- General Disposal Guidance** Do not contaminate water, food, or feed by disposal. Dispose in accordance with all local, state/provincial and federal regulations. Never place unused product down any indoor or outdoor drain. Follow advice on product label and/or leaflet.
- Container Disposal** Do not re-use empty containers. Puncture container to avoid re-use. Follow advice on product label and/or leaflet.

**SECTION 14. TRANSPORT INFORMATION**

DOT CLASSIFICATION:  
Not regulated for Domestic Surface Shipment

FREIGHT CLASSIFICATION:  
Compounds, Tree or Weedkilling, N.O.I., other than poison, having a density of 20 LBS or greater per cubic foot

**SECTION 15. REGULATORY INFORMATION**

**EPA Registration No.** 72155-85

**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**

Dicamba, dimethylamine salt 2300-66-5 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**

Dicamba, dimethylamine salt 2300-66-5 NJ



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**Canadian Regulations**

**Canadian Domestic Substance List**

Quinclorac 84087-01-4

**Environmental**

**CERCLA**

None.

**Clean Water Section 307 Priority Pollutants**

None.

**Safe Drinking Water Act Maximum Contaminant Levels**

None.

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**SECTION 16. OTHER INFORMATION**

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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: 04/25/2008

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