SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier
Trade name AUTUMN™ SUPER 51 WDG HERBICIDE
Product code (UVP) 79653794
SDS Number 102000022412
EPA Registration No. 264-1134

Relevant identified uses of the substance or mixture and uses advised against
Use Herbicide
Restrictions on use See product label for restrictions.

Information on supplier
Supplier Bayer CropScience
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
United States

Responsible Department Email: SDSINFO.BCS-NA@bayer.com

Emergency telephone no.
Emergency Telephone 1-800-334-7577
Number (24hr/ 7 days)
Product Information 1-866-99BAYER (1-866-992-2937)
Telephone Number

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200
Eye irritation: Category 2B
Signal word: Warning

Hazard statements
Causes eye irritation.

Precautionary statements
Wash thoroughly after handling.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/ attention.

Other hazards
No other hazards known.
SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component Name</th>
<th>CAS-No.</th>
<th>Concentration % by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thiencarbazone-methyl</td>
<td>317815-83-1</td>
<td>45.0</td>
</tr>
<tr>
<td>Iodosulfuron-methyl-sodium</td>
<td>144550-36-7</td>
<td>6.0</td>
</tr>
<tr>
<td>Naphthalene and alkyl naphthalene sulphonic acids formaldehyde condensate, sodium salt</td>
<td>68425-94-5</td>
<td>12.0</td>
</tr>
<tr>
<td>Aromatic hydrocarbons, C10-13, reaction products with branched nonene, sulfonated, sodium salts</td>
<td>1258274-08-6</td>
<td>4.25</td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice
When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

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.

Skin contact
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.

Eye contact
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.

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.

Most important symptoms and effects, both acute and delayed

Symptoms
No symptoms known or expected.

Indication of any immediate medical attention and special treatment needed

Treatment
Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable

High volume water jet

Special hazards arising from the substance or mixture

In the event of fire the following may be released: Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Hydrogen iodide (HI), Hydrogen sulphide (H2S), Nitrogen oxides (NOx)

Advice for firefighters

Special protective equipment for fire-fighters

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

Further information

Extinguishing measures to suit surroundings. Fight fire from upwind position. Keep out of smoke. Do not allow run-off from fire fighting to enter drains or water courses.

Flash point

Not applicable

Autoignition temperature

No data available

Lower explosion limit

Not applicable

Upper explosion limit

Not applicable

Explosivity

Not explosive

92/69/EEC, A.14 / OECD 113

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions

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

Methods and materials for containment and cleaning up

Methods for cleaning up

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. Do not allow product to contact non-target plants.

Reference to other sections

Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

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

Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only. Keep away from direct sunlight.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thiencarbazone-methyl</td>
<td>317815-83-1</td>
<td>10 mg/m3 (OES BCS)</td>
<td></td>
<td>OES BCS*</td>
</tr>
<tr>
<td>Iodosulfuron-methyl-sodium</td>
<td>144550-36-7</td>
<td>1 mg/m3 (TWA)</td>
<td></td>
<td>OES BCS*</td>
</tr>
</tbody>
</table>

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

Exposure controls

Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection

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.

Hand protection

Chemical resistant nitrile rubber gloves

Eye protection

Safety glasses with side-shields

Skin and body protection

Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures

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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

light brown
Physical State: water-dispersible granules

Odor: characteristic

Odour Threshold: no data available

pH: 9.0 - 10.0 at 1 % (23 °C) (deionized water)

Vapor Pressure: no data available

Vapor Density (Air = 1): no data available

Bulk density: 0.605 - 0.710 g/ml (loose)

Evaporation rate: not applicable

Boiling Point: not applicable

Melting / Freezing Point: not applicable

Water solubility: dispersible

Minimum Ignition Energy: not applicable

Decomposition temperature: no data available

Partition coefficient: n-octanol/water: not applicable

Viscosity: not applicable

Flash point: not applicable

Autoignition temperature: no data available

Lower explosion limit: not applicable

Upper explosion limit: not applicable

Explosivity: Not explosive

92/69/EEC, A.14 / OECD 113

Other information: Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Thermal decomposition: no data available

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: No hazardous reactions when stored and handled according to prescribed instructions.
Conditions to avoid
Extremes of temperature and direct sunlight.

Incompatible materials
No data available

Hazardous decomposition products
No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes
Ingestion, Skin Absorption, Eye contact, Inhalation

Immediate Effects
Eye
Moderate eye irritation.

Skin
Harmful if absorbed through skin.

Ingestion
Harmful if swallowed.

Information on toxicological effects

Acute oral toxicity
LD50 (rat) > 2,000 mg/kg

Acute inhalation toxicity
LC50 (rat) > 5.0 mg/l
Exposure time: 4 h
Determined in the form of a respirable aerosol.

Acute dermal toxicity
LD50 > 2,000 mg/kg

Skin irritation
No skin irritation (rabbit)

Eye irritation
Irritating to eyes. (rabbit)

Sensitisation
Non-sensitizing. (mouse)
OECD Test Guideline 429, local lymph node assay (LLNA)

Assessment repeated dose toxicity
Thiencarbazone-methyl did not cause specific target organ toxicity in experimental animal studies.
Iodosulfuron-methyl-sodium did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity
Thiencarbazone-methyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Iodosulfuron-methyl-sodium was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity
Thiencarbazone-methyl was not carcinogenic in a lifetime feeding study in rats. Thiencarbazone-methyl caused at high dose levels an increased incidence of tumours in mice in the following organ(s): urinary bladder. The tumours seen with Thiencarbazone-methyl were caused through the chronic irritation due to the presence of bladder stones.
Iodosulfuron-methyl-sodium was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH
None.
Assessment toxicity to reproduction
Thiencarbazone-methyl did not cause reproductive toxicity in a two-generation study in rats.
Iodosulfuron-methyl-sodium did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity
Thiencarbazone-methyl did not cause developmental toxicity in rats and rabbits.
Iodosulfuron-methyl-sodium did not cause developmental toxicity in rats and rabbits.

Further information
Only acute toxicity studies have been performed on the formulated product.
The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish
LC50 (Oncorhynchus mykiss (rainbow trout)) > 100 mg/l
Exposure time: 96 h

Toxicity to aquatic invertebrates
EC50 (Daphnia magna (Water flea)) > 98.6 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient thiencarbazone-methyl.

EC50 (Daphnia magna (Water flea)) > 100 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient iodosulfuron-methyl-sodium.

Toxicity to aquatic plants
IC50 (Raphidocelis subcapitata (freshwater green alga)) 1.017 mg/l
Growth rate; Exposure time: 72 h
The value mentioned relates to the active ingredient thiencarbazone-methyl.

IC50 (Lemna gibba (gibbous duckweed)) 0.00131 mg/l
Growth rate; Exposure time: 7 d
The value mentioned relates to the active ingredient thiencarbazone-methyl.

IC50 (Raphidocelis subcapitata (freshwater green alga)) 0.152 mg/l
Growth rate; Exposure time: 96 h
The value mentioned relates to the active ingredient iodosulfuron-methyl-sodium.

IC50 (Lemna gibba (gibbous duckweed)) 0.00081 mg/l
Growth rate; Exposure time: 14 d

The value mentioned relates to the active ingredient iodosulfuron-methyl-sodium.

Biodegradability
Thiencarbazone-methyl: not rapidly biodegradable
Iodosulfuron-methyl-sodium: not rapidly biodegradable

Koc
Thiencarbazone-methyl: Koc: 100
Iodosulfuron-methyl-sodium: Koc: 45

Bioaccumulation
Thiencarbazone-methyl: Does not bioaccumulate.
Iodosulfuron-methyl-sodium: Does not bioaccumulate.

Mobility in soil
Thiencarbazone-methyl: Moderately mobile in soils
Iodosulfuron-methyl-sodium: Mobile in soils

Additional ecological information
No other effects to be mentioned.

Environmental precautions
Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.
Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.
Drift or runoff from treated areas may adversely affect non-target plants.
Do not apply when weather conditions favor runoff or drift.
Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods
Product
Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility.
Dispose in accordance with all local, state/provincial and federal regulations.

Contaminated packaging
Do not re-use empty containers.
Triple rinse containers.
Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities.
If burned, stay out of smoke.
Follow advice on product label and/or leaflet.
RCRA Information
Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

SECTION 14: TRANSPORT INFORMATION

49CFR
Not dangerous goods / not hazardous material

IMDG
UN number 3077
Class 9
Packaging group III
Marine pollutant YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (THIENCARBAZONE-METHYL MIXTURE)

IATA
UN number 3077
Class 9
Packaging group III
Environm. Hazardous Mark YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (THIENCARBAZONE-METHYL MIXTURE)

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 264-1134
US Federal Regulations
TSCA list Naphthalene and alkyl naphthalene 68425-94-5
sulphonic acids formaldehyde condensate, sodium salt
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
None.
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**

None.

**Canadian Regulations**

**Canadian Domestic Substance List**

None.

**Environmental**

**CERCLA**

None.

**Clean Water Section 307 Priority Pollutants**

None.

**Safe Drinking Water Act Maximum Contaminant Levels**

None.

**EPA/FIFRA Information:**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

**Signal word:**

Caution!

**Hazard statements:**

Harmful if swallowed or absorbed through skin.
Moderate eye irritation.
Avoid contact with skin, eyes and clothing.

---

**SECTION 16: OTHER INFORMATION**

**Abbreviations and acronyms**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>49CFR</td>
<td>Code of Federal Regulations, Title 49</td>
</tr>
<tr>
<td>ACGIH</td>
<td>US. ACGIH Threshold Limit Values</td>
</tr>
<tr>
<td>CAS-Nr.</td>
<td>Chemical Abstracts Service number</td>
</tr>
<tr>
<td>EINECS</td>
<td>European inventory of existing commercial substances</td>
</tr>
<tr>
<td>ELINCS</td>
<td>European list of notified chemical substances</td>
</tr>
<tr>
<td>IARC</td>
<td>US. IARC Monographs on Occupational Exposures to Chemical Agents</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods</td>
</tr>
<tr>
<td>N.O.S.</td>
<td>Not otherwise specified</td>
</tr>
<tr>
<td>NTP</td>
<td>US. National Toxicology Program (NTP) Report on Carcinogens</td>
</tr>
<tr>
<td>OECD</td>
<td>Organization for Economic Co-operation and Development</td>
</tr>
<tr>
<td>TDG</td>
<td>Transportation of Dangerous Goods</td>
</tr>
</tbody>
</table>
TWA  Time weighted average  
UN  United Nations  
WHO  World health organisation  

NFPA 704 (National Fire Protection Association):  
- Health 2  
- Flammability 1  
- Instability 0  
- Others - none  

- Health 1  
- Flammability 1  
- Physical Hazard 0  
- PPE -  

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

Reason for Revision: Revised according to the current OSHA Hazard Communication Standard (29CFR1910.1200)  

Revision Date: 11/24/2015  

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