We create chemistry

Safety Data Sheet
SAHARA DG HERBICIDE

1. Identification

Product identifier used on the label

SAHARA DG HERBICIDE

Recommended use of the chemical and restriction on use
Recommended use*: herbicide

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Substance number:	63528
EPA Register number:	241-372
Molecular formula:	C(13)H(15)N(3)O(3); C(9) H(10)Cl(2)N(2)O
Chemical family:	imidazole derivative
Synonyms:	imazapyr ; diuron

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Acute Tox.	4 (Inhalation - dust)	Acute toxicity
Eye Dam./Irrit.	2A	Serious eye damage/eye irritation
Carc.	2	Carcinogenicity
STOT RE	2	Specific target organ toxicity — repeated exposure

Aquatic Acute	1	Hazardous to the aquatic environment - acute
Aquatic Chronic	1	Hazardous to the aquatic environment - chronic
Combustible Dust	Combustible Dust (1)	Combustible Dust

Label elements

Pictogram:

Signal Word:
Warning

Hazard Statement:

	May form combustible dust concentration in air.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P201	Obtain special instructions before use.
P261	Avoid breathing dust.
P260	Do not breathe dust/gas/mist/vapours.
P202	Do not handle until all safety precautions have been read and understood.
P264	Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P308 + P311	IF exposed or concerned: Call a POISON CENTER or doctor/physician.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P314	Get medical advice/attention if you feel unwell.
P391	Collect spillage.
P337 + P311	If eye irritation persists: Call a POISON CENTER or doctor/physician.

Precautionary Statements (Storage):

P405	Store locked up.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified

Labeling of special preparations (GHS):
The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 25 % dermal

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 19 % Inhalation - dust

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Emergency overview

CAUTION:
KEEP OUT OF REACH OF CHILDREN.
Moderately irritating to the eyes.
Avoid contact with the skin, eyes and clothing.
Avoid inhalation of mists/vapours.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

CAS Number	Weight %	Chemical name
330-54-1	62.22 %	diuron
81334-34-1	7.78 %	Imazapyr
9005-25-8	10.0 - 15.0%	starch
577-11-7	0.1 - 1.0%	sodium-di-ethyl-hexyl-sulfosuccinate

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

CAS Number	Weight %	Chemical name
330-54-1	62.22 %	diuron
81334-34-1	7.78 %	Imazapyr
	30.0 %	Proprietary ingredients

4. First-Aid Measures

Description of first aid measures

General advice:
Remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention.

If on skin:
Wash thoroughly with soap and water.

If in eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:
Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

Indication of any immediate medical attention and special treatment needed

Note to physician
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
foam, dry powder, carbon dioxide, water spray

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
carbon monoxide, carbon dioxide, Hydrocarbons, halogenated hydrocarbons, nitrogen oxides, acid halides
If product is heated above decomposition temperature, toxic vapours will be released. The substances/groups of substances mentioned can be released if the product is involved in a fire.

Advice for fire-fighters

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
Evacuate area of all unnecessary personnel. Contain contaminated water/firefighting water. Do not allow to enter drains or waterways.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Take appropriate protective measures. Clear area. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

Environmental precautions

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

Methods and material for containment and cleaning up

Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. Handling and Storage

Precautions for safe handling

RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product

Label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect contents from the effects of light. Protect against heat. Protect from air. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Avoid aerosol formation. Avoid dust formation. Provide means for controlling leaks and spills. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance/ product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours. Wear suitable personal protective clothing and equipment.

Protection against fire and explosion:
The relevant fire protection measures should be noted. Fire extinguishers should be kept handy. Avoid all sources of ignition: heat, sparks, open flame. Sources of ignition should be kept well clear. Avoid extreme heat. Keep away from oxidizable substances. Electrical equipment should conform to national electric code. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

Dust explosion class: Dust explosion class 1 (Kst-value >0 up to 200 bar m s-1).

Conditions for safe storage, including any incompatibilities
Segregate from incompatible substances. Segregate from foods and animal feeds. Segregate from textiles and similar materials.

Further information on storage conditions: Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination. The authority permits and storage regulations must be observed.

8. Exposure Controls/Personal Protection

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

Components with occupational exposure limits

diuron	OSHA PEL	TWA value 10 mg/m3 ;
	ACGIH TLV	TWA value 10 mg/m3 ;
starch	OSHA PEL	PEL 5 mg/m3 Respirable fraction ; PEL 15 mg/m3 Total dust ;
	ACGIH TLV	TWA value 10 mg/m3 ;

Advice on system design:
Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

Personal protective equipment

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) TC23C Chemical/Mechanical type filter system to remove a combination of particles, gas and vapours. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or

Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:
Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:
Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:
Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Form:	granules
Odour:	odourless
Odour threshold:	not applicable, odour not perceivable
Colour:	beige
pH value:	3.2
Melting point:	approx. 150 °C The statements are based on the properties of the individual components.
Boiling point:	The product is a non-volatile solid., not applicable
Flash point:	not applicable
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Autoignition:	not applicable
Vapour pressure:	negligible
Bulk density:	490 kg/m3 (20 °C) 30.5897 lb/ft3
Vapour density:	not applicable

Thermal decomposition:	carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, Hydrogen chloride, halogenated hydrocarbons, Hydrocarbons Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. If product is heated above decomposition temperature hazardous fumes may be released.
Viscosity, dynamic:	not applicable
Viscosity, kinematic:	not applicable
Solubility in water:	slightly soluble, miscible
Evaporation rate:	not applicable
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.

10. Stability and Reactivity

Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:
No corrosive effect on metal.

Oxidizing properties:
Not an oxidizer.

Dust explosion class:
Dust explosion class 1 (Kst-value >0 up to 200 bar m s-1) (St 1)

Minimum ignition energy:
50 - 100 mJ

Chemical stability
The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions
The product is chemically stable.
Hazardous polymerization will not occur. No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid
Avoid all sources of ignition: heat, sparks, open flame. Avoid prolonged storage. Avoid electro-static discharge. Avoid contamination. Avoid prolonged exposure to extreme heat. Avoid extreme temperatures. This product may form an explosive mixture if: 1. the dust is suspended in the atmosphere as a dust cloud AND 2. the concentration of the dust is above the lower explosion limit (LEL) AND 3. the limiting oxygen concentration (LOC) is exceeded.

Incompatible materials
strong oxidizing agents

Hazardous decomposition products

Decomposition products:
Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated., Prolonged thermal loading can result in products of degradation being given off.

Thermal decomposition:

Possible thermal decomposition products:
carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, Hydrogen chloride, halogenated hydrocarbons, Hydrocarbons
Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. If product is heated above decomposition temperature hazardous fumes may be released.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity
Assessment of acute toxicity: Relatively nontoxic after single ingestion. Slightly toxic after short-term skin contact. Relatively nontoxic after short-term inhalation.
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.
Of low toxicity after single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact.

Oral
Type of value: LD50
Species: rat
Value: 3,536 mg/kg

Inhalation
Type of value: LC50
Species: rat
Value: > 2.3 mg/l
No mortality was observed.

Dermal
Type of value: LD50
Species: rat
Value: > 2,000 mg/kg
No mortality was observed.

Irritation / corrosion
Assessment of irritating effects: May cause moderate but temporary irritation to the eyes. May cause slight irritation to the skin.

Information on: sodium alkylnaphthalene sulphonate, formaldehyde condensate
Assessment of irritating effects: Exposure to high concentrations causes respiratory irritations. Inhalation of dust causes slight irritation of the respiratory tract. Eye contact causes irritation. Skin contact causes irritation.

Skin
Species: rabbit
Result: Slightly irritating.
Method: Primary skin irritation test

Eye
Species: rabbit
Result: moderately irritating

Information on: Imazapyr
Species: rabbit
Result: non-irritant
Method: OECD Guideline 405
The European Union (EU) has classified this substance with 'Irritating to eyes'.(R36).

Sensitization
Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Skin sensitization test
Species: guinea pig
Result: Non-sensitizing.

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: diuron
Assessment of repeated dose toxicity: Repeated oral exposure may affect certain organs.

Genetic toxicity
Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity
Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: imazapyr
Assessment of carcinogenicity: In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.

Information on: Diuron
Assessment of carcinogenicity: When given in high doses, the substance was carcinogenic in animal studies. Based on its mechanism of action, a carcinogenic potential is not expected after exposure to low doses.

Reproductive toxicity
Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity
Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Other Information
Misuse can be harmful to health.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
Acutely toxic for fish. Acutely toxic for aquatic invertebrates. Very toxic (acute effect) to aquatic plants.

Toxicity to fish

Information on: imazapyr
LC50 (96 h) > 100 mg/l, Oncorhynchus mykiss

Information on: Diuron
LC50 6.7 mg/l, Cyprinodon variegatus

Aquatic invertebrates

Information on: imazapyr
EC50 (48 h) > 100 mg/l, Daphnia magna

Information on: Diuron
LC50 1.1 mg/l, Mysidopsis bahia

Aquatic plants

Information on: imazapyr
EC50 71 mg/l, Selenastrum capricornutum
EC50 (7 d) 11.5 mg/l, Anabaena flos-aquae

Information on: Diuron
EC50 0.0233 mg/l, Scenedesmus subspicatus
EC50 0.018 mg/l, Lemna gibba

Assessment of terrestrial toxicity
Acutely harmful to terrestrial organisms. With high probability not acutely harmful to terrestrial organisms.

Persistence and degradability

Assessment biodegradation and elimination (H2O)

Information on: diuron

Not readily biodegradable (by OECD criteria).

Information on: Imazapyr

Bioaccumulative potential

Assessment bioaccumulation potential
The product has not been tested. The statement has been derived from the properties of the individual components.

Mobility in soil

Assessment transport between environmental compartments
The product has not been tested. The statement has been derived from the properties of the individual components.

Additional information

Other ecotoxicological advice:
Do not discharge product into the environment without control.

13. Disposal considerations

Waste disposal of substance:
Pesticide wastes are regulated. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal:
Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

RCRA:
This product is not regulated by RCRA.

14. Transport Information

Land transport
USDOT

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

Further information

DOT: This product is regulated if the amount in a single receptacle exceeds the Reportable Quantity (RQ). Please refer to Section 15 of this MSDS for the RQ for this product.

15. Regulatory Information

Federal Regulations

Registration status:

Crop Protection	TSCA, US	released / exempt
Chemical	TSCA, US	blocked / not listed

EPCRA 311/312 (Hazard categories): Acute; Chronic

EPCRA 313:

CAS Number	Chemical name
330-54-1	diuron

CERCLA RQ	CAS Number	Chemical name
100 LBS	330-54-1	diuron

State regulations

State RTK	CAS Number	Chemical name
PA	330-54-1	diuron
	7757-82-6	Sodium sulfate

CA Prop. 65:
WARNING: THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

NFPA Hazard codes:
Health : 1 Fire: 2 Reactivity: 0 Special:

Labeling requirements under FIFRA

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 workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

CAUTION:
KEEP OUT OF REACH OF CHILDREN.
May cause moderate but temporary irritation to the eyes.
Avoid prolonged and/or repeated contact with the skin.
Avoid inhalation of mists/vapours.

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2015/05/31

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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