

SAFETY DATA SHEET

SECTION 1: Identification

Product(s) identifier: DRIVE-N

Other means of identification: Eng-Ca

SDS number – EA0077-1

Recommended use: Fertilizer additive

Recommended restrictions: Use in accordance with supplier's recommendations.

Manufacturer/Importer/Supplier/Distributor information

Company name: INNOVAR AG

Address: 1201 6th Avenue West, Suite 302
Bradenton, Florida 34205 USA

Telephone: +1 855 473-3632 (8:00AM-5:00PM EST)

Emergency: Call CHEMTREC day or night

Within USA/Canada 1-800-424-9300

Outside USA/Canada +1 703-527-3887 (collect calls accepted)

SECTION 2: Hazard(s) identification

Classification of the substance or mixture

GHS-US Classification in accordance with US 29 CFR 1910.1200 (Hazcom 2012)

Skin corrosion/irritation

Category 2

Label elements

Hazard symbol(s)



Signal word:

WARNING

Hazard statement(s):

Causes skin irritation.

Precautionary statement(s)

Prevention:

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear eye and face protection, protective gloves, protective clothing.

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Wash hands, forearms and face thoroughly after handling.

Wear eye protection, face protection, skin protection, clothing protection

Response: If on skin: wash with plenty of water. If irritation occurs, get medical attention. Take off contaminated clothing and wash before reuse. If in eyes: Rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately seek medical attention or advice. If inhaled, remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you are unwell.

Storage: Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with all applicable local/state/national/international laws and regulations.

Hazard(s) not otherwise Classified (HNOC) None Known

SECTION 3: Composition/information on ingredients

This product is a mixture.

Composition---Information On Ingredients

Chemical name	Common Name	CAS number	%
Methane, sulfinylbis-	Dimethyl sulfoxide	67-68-5	30-80
N-Cyanoguanidine	Dicyandiamide.	461-58-5	20-50

Composition comments: All concentrations are in percent by weight. Exact percentage values for components are proprietary in accordance with 29 CFR 1910.1200(i). Remaining components are proprietary, non-hazardous, and /or present at amounts below reportable limits.

SECTION 4: First-aid Measures

Inhalation: If inhaled, remove to fresh air. If not breathing, apply artificial respiration. Get medical attention immediately.

Skin contact: Remove all contaminated clothing immediately. Wash immediately with soap and plenty of water. If irritation develops and persists, get medical attention. Launder contaminated clothing before reuse.

Eye contact: Wash immediately with large amounts of water for 15 minutes, lifting the upper and lower lids until no evidence of product remain. Get immediate medical attention.

Ingestion: Rinse mouth thoroughly. Drink 1 or 2 glasses of water. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention.

Most important symptoms/effects, acute and delayed: Skin irritation.

Indication of immediate medical attention

and special treatment needed: Treat symptomatically. Symptoms may be delayed.

General Information: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: Fire-fighting measures

Suitable extinguishing media: Carbon Dioxide (CO₂), Foam, Water Fog, water spray.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread fire.

Specific hazards arising from the chemical: Vapors released in fire conditions may be toxic, irritating and corrosive.

Hazardous combustion products may include: Carbon oxides, nitrogen oxides, sulfur oxides and irritating vapors.

Special protective equipment and precautions for fire-fighters: Firefighters should be equipped with protective clothing and self-contained breathing apparatus to protect against potentially toxic and irritating vapors. In case of fire or explosion, keep unnecessary people away. Isolate hazard area and prevent any entry by non-emergency personnel. Stay upwind, out of low areas and ventilate closed spaces before entering.

Firefighting equipment and Use standard firefighting procedures and consider the hazards

Precautions for firefighters: of other involved materials.

General fire hazards: This product is not flammable. Will burn if involved in a fire.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: Avoid inhalation of vapors and spray mist and contact with eyes and skin. Ensure adequate ventilation. Wear appropriate personal protective equipment. (See Section 8)

Methods and materials for containment and cleaning up: Do not empty into drains or water ways. Do not touch or walk through the spilled material; stop leak if you can do it without risk. Dike large spills where possible. Absorb using vermiculite, dry sand or other non-combustible absorbent and place in labeled sealable containers. Never return spills to original containers for reuse. For waste disposal see section 13 of SDS.

Environmental precautions: Do not contaminate water. Do not allow to enter drains, sewers or watercourses.

Recommended Decontamination Facilities: Eye bath and water washing facilities.

SECTION 7: Handling and Storage

Precautions for safe handling: Keep away from sources of ignition. Observe good industrial hygiene practices. Immediately remove all contaminated clothing. Avoid contact with eyes and skin. Inhalation of vapors and aerosols must be absolutely prevented. Employees should wash

their hands and face before eating and drinking and shower thoroughly before leaving work. Keep away from food and drink stuffs.

Conditions for safe storage, including any incompatibles: Keep container tightly closed and in a cool, dry and well-ventilated place. Long term storage at temperatures above 100°F (36°C) and long-term storage of opened containers, can adversely impact the efficacy of products. Use opened containers within 30 days. Always used oldest stock first. Store in accordance with all applicable local, state, national and international regulations.

SECTION 8: Exposure controls/personal protection

Occupational exposure limits

US Workplace Environmental Exposure Level (WEEL) Guides

<u>Components</u>	<u>Type</u>	<u>Value</u>
Dimethyl sulfoxide: (CAS 67-68-5)	TWA	250 ppm

(TWA: 8-hour Time-Weighted Average)

Appropriate engineering controls: Use adequate local and general ventilation as recommended by onsite health and safety personnel to meet requirements. Observe exposure limits and minimize the risk of inhalation of vapors and spray mist. Provide eye wash stations and safety shower.

Individual protection measures, such as personal protective equipment:

Eye/face protection:	Wear approved safety glasses or goggles.
Skin and Hand protection:	Long-sleeve shirts, pants, chemical resistant gloves (e.g. polyethylene/ethylene vinyl alcohol) and boots are recommended. Impervious suits are recommended when the potential for dermal contact is significant.
Respiratory protection:	If engineering controls do not maintain airborne concentrations below recommended exposure limits an approved respirator must be worn. In case of inadequate ventilation or risk of inhalation of mist, use suitable respiratory equipment with particle filter. In the United States of America if respirators are used, the health and safety administrator must use a program to ensure compliance with OSHA 29 CFR 1910.134 and ANSI Z88.2.
Other:	Overalls, apron or other protective clothing.
Thermal hazards:	Wear appropriate thermal protective clothing when necessary.

SECTION 9: Physical and chemical properties

Appearance:

Physical state:	Liquid
Form:	Slightly hazy to clear liquid
Color:	Clear to light yellow
Odor:	Typical
Odor threshold:	Not Available
pH:	7.5 – 10.4 (10% in water @ 20°C)
Melting point/freezing point:	Not Available
Initial Boiling point/Boiling Range:	Not Available
Flash point:	101 ⁰ C (213.8 ⁰ F) - Closed Cup
Other information-Flammability	Not Available
Evaporation rate:	Not Available
Flammability (solid, gas):	Not Available
Upper/lower flammability or explosive limits	
Flammability limit – lower:	Not available
Flammability limit – upper:	Not Available
Explosive limit – lower:	Not available
Explosive limit – upper:	Not available
Vapor pressure:	Not available
Vapor density:	Not available
Relative density:	1.170 @ 20°C (68°F)
Solubilities (water, other):	Partially soluble (in water)
Partition coefficient (n-octanol/water):	Not Available
Auto-ignition temperature:	Not Available
Decomposition temperature:	No thermal decomposition is anticipated when stored and handled correctly
Viscosity:	Not Available
Other information	
Bulk density:	Not Available
VOC (Weight %):	Not Available

SECTION 10: Stability and Reactivity

Reactivity:	This product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability:	This product is anticipated to be stable under normal use and storage conditions.
Possibility of hazardous reactions:	Not known to cause any hazardous reactions.
Conditions to avoid:	Heat, sparks, other sources of ignition and temperature extremes.
Incompatible materials:	Acids. Strong oxidizing and strong reducing agents.
Hazardous decomposition Products:	This product contains components which may decompose to release: methanethiol, formaldehyde, water,

bis (methylthio) methane, dimethyl disulfide, dimethyl sulfone, dimethyl sulfide, sulfur dioxide, oxides of carbon, nitrogen, sulfur and other compounds.

SECTION 11: Toxicological information

Information on likely routes of exposure

Inhalation:	May cause irritation of the nose throat and respiratory tract.
Ingestion:	May cause irritation of the gastrointestinal tract.
Skin:	Causes skin irritation.
Eye:	Causes irritation to eyes.

Symptoms related to the physical, chemical, and toxicological characteristics: Causes serious eye damage. May cause irritation to nose and throat if inhaled. Skin irritation and/or sensitization (an allergic reaction) can develop.

Acute toxicity:

Components

Dimethyl sulfoxide (CAS 67-68-5)

Oral LD50 (male rat)	14500 mg/kg
Skin LD50 (rabbit)	5000 mg/kg
Inhalation Gas LD50 (rat)	40250 ppm
Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Respiratory sensitization	Not classified
Skin sensitization	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity, single exposure	Not classified
Specific target organ toxicity, repeated exposure	Not classified
Aspiration hazard	Not classified
Chronic effects	Not classified
Further information	Not applicable

Dicyandiamide (CAS 461-58-5)

Oral LD50 (rat/adult)	>10000 mg/kg
Skin LD50 (rabbit/adult)	> 2000 mg/kg
Skin corrosion/irritation	Cat 2-Causes skin irritation
Serious eye damage	Not classified
Respiratory sensitization	Not classified
Skin sensitization	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity, single exposure	Not classified

Specific target organ toxicity, repeated exposure	Not classified
Aspiration hazard	Not classified
Chronic effects	Not classified
Further information	Not applicable

SECTION 12: Ecological information

Ecotoxicity

Product data on mixture: Not available

Ingredient Information:

Dimethyl sulfoxide	
LC50, Pimephales promelas, 96-hour	34000 mg/l
EC50, Daphnia magna, 48-hour	25000 mg/l
EC50, algae (Skeletonema costatum) 96-hour	12350 mg/l

Dicyandiamide	
LC50, Oncorhynchus mykiss.	7700 mg/l
LC50, Daphnia magna, 48-hour	3177 mg/l

Persistence and degradability	Product Data Not Available
Bioaccumulative potential	Product Data Not Available
Mobility in soil	Product Data Not Available
Mobility in general	Product Data Not Available
Other adverse effects	Product Data Not Available

SECTION 13: Disposal considerations

Disposal instructions: Do not allow this material to drain into sewers or water ways. Dispose of in accordance with all applicable regulations. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal. Since emptied containers may retain product residue, follow label warnings even after container is empty.

SECTION 14: Transport Information

LAND TRANSPORT (US-DOT): Not regulated for transport as dangerous goods.
TDG: Not regulated for transport as dangerous goods.
IMDG: Not regulated for transport as dangerous goods.
IATA: Not regulated for transport as dangerous goods.

SECTION 15: Regulatory Information

US Regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CERCLA Hazardous Substance List (40 CFR 302.4) Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) Not listed.

SARA 302 Extremely Hazardous Substance: -No
SARA 304 Emergency Release Notification: -No
SARA 311/312 Hazardous Chemical: -Yes
Classified Hazard Categories Causes skin irritation
SARA 313 (TRI reporting): -No

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List: Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): Not regulated.

Safe Drinking Water Act: Not regulated

US State Regulations

California Proposition 65-This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

New Jersey Right To Know Components: Dimethyl sulfoxide CAS 67-68-5

CANADA REGULATIONS

Controlled Drugs and Substances Act	Not regulated
Export Control List (CEPA 1999, Schedule 3)	Not listed
Greenhouse Gases	Not listed
Precursor Control Regulations	Not regulated

INVENTORIES

Canada	Domestic Substances List (DSL)	All components on inventory.
Canada	Non-Domestic Substances List (NDSL)	No
US	Toxic Substances Control Act (TSCA) Inventory	All components on inventory.
	All components of the product, or mixture, are active items as identified on EPA TSCA 8(b) Inventory of 3-15-2019.	

SECTION 16: Other Information

Revision Date: December 22, 2020

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