



# SAFETY DATA SHEET

## Krovar

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## Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### Product identifier

#### **Krovar**

Synonyms Diuron 400 Bromacil 400 WG  
Pure substance/mixture Mixture

### Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Herbicide  
Uses advised against No information available

### Details of the supplier of the safety data sheet

Supplier Address ADAMA Agan Ltd  
P.O.B. 262  
ASHDOD Israel

For further information, please contact

Email address SDS@ADAMA.COM

### Emergency Telephone

Emergency Telephone +972-03-6106666 Subscription no. 36789 (ADAMA Makhteshim Ltd.)

## Section 2: HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Acute toxicity - Oral Category 4 - (H302)  
Carcinogenicity Category 2 - (H351)  
Specific target organ toxicity (repeated exposure) Category 2 - (H373)  
Acute aquatic toxicity Category 1 - (H400)  
Chronic aquatic toxicity Category 1 - (H410)

### Label Elements

#### **Hazard pictograms**



**Signal word**

Warning

**Hazard Statements**

H302 - Harmful if swallowed  
 H351 - Suspected of causing cancer  
 H373 - May cause damage to organs through prolonged or repeated exposure  
 H410 - Very toxic to aquatic life with long lasting effects

**Precautionary Statements**

P102 - Keep out of reach of children  
 P201 - Obtain special instructions before use  
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
 P270 - Do not eat, drink or smoke when using this product  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection  
 P501 - Dispose of contents/ container to an approved waste disposal plant

**Other Hazards**

No information available

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Mixture**

Chemical Name	Weight-%	CAS No
Diuron	38-43	330-54-1
Bromacil	38-43	314-40-9
Reaction product of naphthalene, propan-2-ol,sulfonated and neutralized by caustic soda	1-3	N/A

### Section 4: FIRST AID MEASURES

**First aid measures**

**General advice**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). First aider: Pay attention to self-protection!.

**Inhalation**

Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a physician.

**Skin Contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if necessary.

**Eye contact**

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

**Ingestion**

Rinse mouth. Drink plenty of water. Call a physician or poison control center immediately.

**Self-protection of the first aider**

Use personal protective equipment as required.

**Most important symptoms and effects, both acute and delayed**

**Symptoms**

None known

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

**Section 5: FIRE-FIGHTING MEASURES**

**Extinguishing media**

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media**

No information available.

**Special hazards arising from the substance or mixture**

No specific hazard known.

**Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus

In the event of fire and/or explosion do not breathe fumes.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions**

Use personal protective equipment as required.

**For emergency responders**

Use personal protection recommended in Section 8.

**Environmental precautions**

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system.

**Methods and material for containment and cleaning up**

**Methods for cleaning up**

Take up mechanically, placing in appropriate containers for disposal.

**Reference to other sections**

**Other Information**

See also section 8,13

**Section 7: HANDLING AND STORAGE**

**Precautions for safe handling**

**Advice on safe handling**

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

**General Hygiene Considerations**

When using do not eat, drink or smoke. Wash contaminated clothing before reuse.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions**

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

**Specific end use(s)**

**Risk Management Methods (RMM)**

The information required is contained in this Material Safety Data Sheet.

**Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**National occupational exposure limits**

Chemical Name	European Union	United Kingdom	France	Spain	Germany
Diuron 330-54-1		STEL: 30 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	
Chemical Name	Italy	Portugal	Netherlands	Finland	Denmark
Diuron 330-54-1		TWA: 10 mg/m <sup>3</sup>		TWA: 10 mg/m <sup>3</sup> STEL: 20 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup>
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
Diuron 330-54-1	STEL 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>		TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>

**Exposure controls**

**Engineering Controls**

Ensure adequate ventilation, especially in confined areas.

**Personal protective equipment**

**Eye/face protection**

Tight sealing safety goggles.

**Hand Protection**

Gloves made of plastic or rubber.

**Body Protection**

Suitable protective clothing.

**Respiratory protection**

Use only with adequate ventilation.

**General Hygiene Considerations**

When using do not eat, drink or smoke. Wash contaminated clothing before reuse.

**Environmental exposure controls**

Do not allow into any sewer, on the ground or into any body of water.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Physical and Chemical Properties**

<u>Property</u>	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
<b>Appearance</b>			
Physical state	: Solid		
Color	: brown		
Odor	: Faint		
Odor threshold	: No data available		
pH	: 7.1 - 8.1		
Melting point/freezing point °C	: ---		Not Applicable
Boiling point/boiling range °C	: No data available		
Flash point °C	: ---		Not Applicable
Evaporation rate	: Not Applicable		
Flammability (solid, gas)	: Not flammable		
Upper/lower flammability or explosive limits	: No data available		
Vapor pressure kPa	: ---		Not Applicable
Vapor density	: No data available		

<b>Relative density</b>	: ----	Not Applicable
<b>Solubility(ies) mg/l</b>	: ----	Not Applicable
<b>Partition Coefficient (n-octanol/water) Log Pow</b>	:	See Section 12 for more information
<b>Autoignition temperature °C</b>	: ----	Not Applicable
<b>Decomposition temperature °C</b>	: No data available	
<b>Kinematic viscosity mm<sup>2</sup>/s 40 °C</b>	: ----	Not Applicable
<b>Explosive properties</b>	: Not an explosive	
<b>Oxidizing properties</b>	: Not oxidizing	
<b>Other Information</b>		
<b>Bulk density g/ml</b>	: 0.555 - 0.605	
<b>Surface tension mN/m</b>	: ----	No data available

## Section 10: STABILITY AND REACTIVITY

### Reactivity

Not available.

### Chemical stability

Stable under normal conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Conditions to avoid

Heat, flames and sparks.

### Incompatible Materials

No information available

### Hazardous Decomposition Products

None under normal use conditions.

## Section 11: TOXICOLOGY INFORMATION

### Information on toxicological effects

#### Acute toxicity

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Oral LD50 mg/kg	: > 2000			
Dermal LD50 mg/kg	: > 2000			
Inhalation LC50 mg/l/4h	: > 2.18			Maximum attainable concentration

<b>Skin corrosion/irritation</b>	: Mild skin irritant
<b>Serious eye damage/eye irritation</b>	: Moderately irritating to the eyes
<b>Respiratory/skin sensitization</b>	: Not a skin sensitizer

#### Chronic toxicity

#### Germ cell mutagenicity

<b>Chemical Name</b>	
Diuron	: Not classified

Bromacil : Not classified

**Carcinogenicity**  
**Chemical Name**

Diuron : Suspected of causing cancer  
 Bromacil : Not classified

**Reproductive toxicity**  
**Chemical Name**

Diuron : Not toxic for the reproductive system  
 Bromacil : Not toxic for the reproductive system

**STOT - single exposure**  
**Chemical Name**

Diuron : No data available  
 Bromacil : No data available

**STOT - repeated exposure**  
**Chemical Name**

Diuron : May cause damage to organs through prolonged or repeated exposure  
 Bromacil : No data available

**Aspiration hazard**  
**Chemical Name**

Diuron : No data available  
 Bromacil : No data available

**Section 12: ECOLOGICAL INFORMATION**

Toxicity

**Aquatic toxicity**

<b>Acute toxicity</b>	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Fish 96-hour LC50 mg/l	:			No data available
Crustacea 48-hour EC50 mg/l	:			No data available
Algae 72-hour EC50 mg/l	:			No data available
Other plants EC50 mg/l	:			No data available

**Terrestrial Toxicity**

**Birds Oral LD50 mg/kg**  
**Chemical Name**

Diuron : 1104 Bobwhite quail  
 Bromacil : 2250 Bobwhite quail

**Bees Oral LD50 µg/bee**

**Chemical Name**

Diuron : 145 contact, mg/kg  
 Bromacil : > 193

Persistence and degradability

**Abiotic Degradation**

**Water DT50 days**

**Chemical Name**

Diuron : ---- No data available

**Soil DT50 days**

**Chemical Name**

Diuron : 90-180  
 Bromacil : No data available No data available

**Biodegradation**

**Chemical Name**

Diuron : No data available  
 Bromacil : No data available

**Bioaccumulative potential**

<b>Partition Coefficient (n-octanol/water) Partition Coefficient (n-octanol/water) Log Pow</b>	<b><u>Values</u></b>	<b><u>Method</u></b>	<b><u>Remarks</u></b>
<b>Chemical Name</b>			
Diuron	: 2.85		25 °C
Bromacil	: 1.88		

**Bioconcentration factor (BCF)**

**Chemical Name**

Diuron : No data available  
 Bromacil : No data available

**Mobility in soil**

<b>Adsorption/Desorption</b>	<b><u>Values</u></b>	<b><u>Method</u></b>	<b><u>Remarks</u></b>
<b>Chemical Name</b>			
Diuron	: 400		Koc

**Results of PBT and vPvB assessment**

The components in this formulation do not meet the criteria for classification as PBT or vPvB

**Other adverse effects**

No information available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

<b>Waste from residues/unused products</b>	Disposal should be in accordance with applicable regional, national and local laws and regulations.
<b>Contaminated packaging</b>	Improper disposal or reuse of this container may be dangerous and illegal.
<b>Other Information</b>	Waste codes should be assigned by the user based on the application for which the product was used.

**Section 14: TRANSPORTATION INFORMATION**

**IMDG/IMO**

**UN/ID No \*** 3077  
**Proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. ( Bromacil, Diuron )  
**Hazard Class** 9  
**Packing Group** III  
**Marine pollutant** Yes  
**Special precautions for user**

**RID/ADR**

**UN/ID No \*** 3077  
**Proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. ( Bromacil, Diuron )

<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Environmental hazard</b>	Yes
<b>Special precautions for user</b>	
<b>ICAO/IATA</b>	
<b>UN/ID No *</b>	3077
<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. ( Bromacil, Diuron )
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Environmental hazard</b>	Yes
<b>Special precautions for user</b>	
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not Applicable



\* Note: UN3077 & UN3082 – These products may be transported as non-dangerous goods under the special provisions of IMDG Code 2.10.2.7; ADR SP375 and ICAO/IATA A197 when packed in single or inner packaging of up to 5L for liquids or 5 kg or less for solids.

## Section 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

## Section 16: OTHER INFORMATION

**Revision Note** Changes made to the last version are labeled with this sign \*\*\*.

### List of Acronyms

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road  
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
CAS Number - Chemical Abstracts Service number  
EC Number - EINECS and ELINCS Number  
EINECS - European Inventory of Existing Commercial Substances  
ELINCS - European List of notified Chemical Substances  
IATA - International Air Transport Association  
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air  
IMDG - International Maritime Dangerous Goods  
LC50 - Lethal Concentration to 50 % of a test population  
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)  
OECD - Organization for Economic Co-operation and Development  
PBT - Persistent, Bioaccumulative and Toxic substance  
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail  
STOT - Specific Target Organ Toxicity  
vPvB - Very Persistent and Very Bioaccumulative

### Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



End of Safety Data Sheet