



## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

Trade name : 2,4-D Dimethylammonium salt

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

Use : Plant Protection Product

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

Nufarm GmbH & Co KG  
St.-Peter-Str.25  
A-4021 Linz

Telephone: +43/732/6918-4010  
Telefax: +43/732/6918-64010  
E-mail address: Johann.Mayr@at.nufarm.com

### 1.4. Emergency telephone number

+43/732/6914-2466 (Linz/Austria production site)

## 2. HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

EEC/99/45 : Xi R41 - Risk of serious damage to eyes.  
R43 - May cause sensitization by skin contact.  
R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 2.2. Label elements

according directive 1999/45/EG

Pictogram:



Xi

- R41 - Risk of serious damage to eyes.  
 R43 - May cause sensitization by skin contact.  
 R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- S 2 - Keep out of the reach of children.  
 S13 - Keep away from food, drink and animal feedingstuffs.  
 S20/21 - When using do not eat, drink or smoke.  
 S24 - Avoid contact with skin.  
 S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
 S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

### 2.3. Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical nature** : Aqueous solution of the dimethylammonium salt  
 2,4-D 600 g/l

### 3.2. Mixtures

#### Components:

#### 2,4-D DMA

CAS-No.: 2008-39-1  
 EINECS-No. / ELINCS No.: 217-915-8  
 REACH No.:  
 Concentration: 60,1 % (w/w)

#### Classification:

EG_1272/08 :	AcuteTox.4	H302 - Harmful if swallowed.
	EyeDam.1	H318 - Causes serious eye damage.
	SkinSens.1	H317 - May cause an allergic skin reaction.
	AquaticChronic2	H411 - Toxic to aquatic life with long lasting effects.
EEC/67/548 :	Xi	R41 - Risk of serious damage to eyes.
	Xn	R22 - Harmful if swallowed.
		R43 - May cause sensitization by skin contact.
	N	R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.



## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

### 2,4-D Dimethylammonium salt

Version 12 (Georgia)

Issuing date: 2012/07/05

#### 2,4-Dichloropheno!

CAS-No.: 120-83-2  
EINECS-No. / ELINCS No.: 204-429-6  
REACH No.: 01-2119513326-47  
Concentration: 0% - 0,2% (w/w)

#### Classification:

EG_1272/08 :	AcuteTox.3	H311 - Toxic in contact with skin.
	AcuteTox.4	H302 - Harmful if swallowed.
	SkinCorr.1B	H314 - Causes severe skin burns and eye damage.
	AquaticChronic2	H411 - Toxic to aquatic life with long lasting effects.
EEC/67/548 :	T	R24 - Toxic in contact with skin.
	Xn	R22 - Harmful if swallowed.
	C	R34 - Causes burns.
	N	R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## 4. FIRST AID MEASURES

### 4.1. Description of first aid measures

Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.

Skin contact : Wash off immediately with soap and plenty of water.

Inhalation : Move to fresh air.

Ingestion : Rinse mouth. Do NOT induce vomiting. If swallowed, seek medical advice immediately and show this container or label.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms : sweating, headache, weakness, Diarrhoea, anorexia, Nausea, Salivation, stomach pains, Blurred vision, muscle twitching, Convulsions, loss of reflex, heart and circulatory collaps, Coma

### 4.3. Indication of any immediate medical attention and special treatment needed

Treatment : No specific antidote, symptomatic treatment. As the elimination occurs via the kidneys a dialyse is appropriate. Control of water and electrolytes balance. If ingested, irrigate the stomach.

## 5. FIRE-FIGHTING MEASURES

### 5.1. Extinguishing media



Suitable extinguishing media : Water spray, Dry powder, Sand, Foam, Carbon dioxide (CO<sub>2</sub>)

Extinguishing media which shall not be used for safety reasons : High volume water jet

## 5.2. Special hazards arising from the substance or mixture

Specific hazards during fire fighting : In the event of fire (HCl, Cl<sub>2</sub>, NO<sub>x</sub>, CO) may be formed.

## 5.3. Advice for firefighters

Special protective equipment for fire-fighters : Use personal protective equipment. In the event of fire, wear self-contained breathing apparatus.

Further Information : Standard procedure for chemical fires. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. (see Chapter 8)

### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

### 6.3. Methods and materials for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). Use mechanical handling equipment.

Additional advice : Never return spills in original containers for re-use.

### 6.4. Reference to other sections

see Chapter 13

## 7. HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Safe handling advice : Keep out of reach of children. Wear personal protective



equipment. Do not breathe vapours or spray mist.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

## 7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store at room temperature in the original container.

Advice on common storage : Keep away from food, drink and animal feeding stuffs.

### Storage stability

Storage temperature : > 0 °C

## 7.3. Specific end uses

none

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

Components with workplace control parameters  
no data available

### 8.2. Exposure controls

#### Personal protective equipment

Respiratory protection : No special protective equipment required.

Hand protection : Gloves

Eye protection : Safety glasses

Skin and body protection : protective suit

Hygiene measures : Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

Protective measures : Avoid contact with skin, eyes and clothing. Keep working clothes separately.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

#### Appearance

Physical state : liquid at 20 °C ,  
Form : Soluble concentrate  
Colour : light yellow  
Odour : amine-like

Start of crystallisation : ca.0 °C

Boiling point/boiling range : ca.100 °C  
at 1.013 hPa  
Aqueous solution

Flash point : > 110 °C  
Method: EN/DIN 22719

Ignition temperature : no data available

Upper explosion limit : no data available

Lower explosion limit : no data available

Vapour pressure : Active ingredient is an organic salt. Vapour pressure is negligibly low.

Density : 1,202 g/cm<sup>3</sup>  
at 20 °C

Water solubility : completely miscible

pH : 8 - 10

Partition coefficient: n-  
octanol/water : log POW = 2,7  
at 25 °C

(2,4-D), (pH 1)

log POW = -0,83  
at 25 °C



(2,4-D), (pH 7)

Dissociation constant : pKa= 2,73  
at 25 °C  
(2,4-D), (ionic strength I=0.05)

Viscosity, dynamic : no data available

## 9.2. Other information

none

## 10. STABILITY AND REACTIVITY

### 10.1. Reactivity

no data available

### 10.2. Chemical stability

Stable under recommended storage conditions., No decomposition if stored and applied as directed.

### 10.3. Possibility of hazardous reactions

no data available

### 10.4. Conditions to avoid

none

### 10.5. Incompatible materials to avoid

Strong bases

### 10.6. Hazardous decomposition products

no data available

## 11. TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

Acute oral toxicity : LD50 rat  
Dose: > 2.000 mg/kg



Acute dermal toxicity	: LD50 rat Dose: > 2.000 mg/kg
Acute inhalation toxicity	: LC50 rat Exposure time: 4 h Dose: > 7,41 mg/l
Skin irritation	: rabbit Result: No skin irritation
Eye irritation	: rabbit Result: Severe eye irritation Remarks: Risk of serious damage to eyes.
Sensitisation	: Guinea-pig Result: Causes sensitization.

## 12. ECOLOGICAL INFORMATION

### 12.1. Toxicity

Toxicity to birds	: Practically non toxic.
Toxicity to bees	: Not toxic to bees.
Toxicity to fish	: LC50 Pimephales promelas (Fathead Minnow) Dose: 100 mg/l Testing period: 96 h Test substance: (2,4-D DMA)
Toxicity to daphnia	: EC50 Daphnia Dose: 100 mg/l Testing period: 48 h Test substance: (2,4-D DMA)
Toxicity to algae	: EC50 Selenastrum capricornutum Dose: 24,2 mg/l Exposure time: 96 h





EC50 Lemna gibba (Duckweed)  
Dose: 0,58 mg/l

## 12.2. Persistence and degradability

- Biodegradability : Readily biodegradable, according to appropriate OECD test.
- Stability in soil : DT50: 8 - 25 d  
(2,4-D)
- Stability in water : DT50: 13 d  
(2,4-D)

## 12.3. Potential bioaccumulation

- Bioaccumulation : Does not bioaccumulate.

## 12.4. Mobility in soil

Koc= 5 - 212 (2,4-D)

## 12.5. Results of PBT and vPvB assessment

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

## 12.6. Other adverse effects

none

## 13. DISPOSAL CONSIDERATIONS

According to European Directive 2000/532/EC as amended :

Waste Code : 02 01 08 (agrochemical waste containing dangerous substances)

### 13.1. Waste treatment methods

- Product : In accordance with local and national regulations.
- Contaminated packaging : Do not re-use empty containers. Dispose empty and triple rinsed container within a local disposing system according to EC directive 94/62/EC



## 14. TRANSPORT INFORMATION

### 14.1. UN number

UN3082

### 14.2. Proper shipping name

UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.\*(2,4-D)

### 14.3. Transport hazard class(es)

ADR/RID :  
Class : 9

IMDG :  
Class : 9

IATA-DGR :  
Class : 9

### 14.4. Packaging group

ADR/RID : III

IMDG : III

IATA-DGR : III

### 14.5. Environmental hazards

**IMDG**  
Marine pollutant : MP

### 14.6. Special precautions for user

none

## 15. REGULATORY INFORMATION



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**2,4-D Dimethylammonium salt**

Version 12 (Georgia)

Issuing date: 2012/07/05

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

Other regulations : The product is classified and labelled in accordance with EC directives or respective national laws.

### 15.2. Chemical Safety Assessment

none

## 16. OTHER INFORMATION

Print Date : 2014/02/13

The date format YYYY/MM/DD is used according to ISO 8601.  
(Alterations are indicated in the left hand margin by: || )

The information provided in this 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.

Registration Number: 413/04

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