SAFETY DATA SHEET (SDS)	
TITLE:	**Desmedipham 71 g/L+ Phenmedipham 91 g/L + Ethofumesate 112 g/L (EC)**

1.0 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY / UNDERTAKING

1.1 Product Identifier

Identification on the label / Trade name	:	CIBA DESIPHAM PLUS 274 EC
Common Name	:	Desmedipham 71 g/L+ Phenmedipham 91 g/L + Ethofumesate 112 g/L (EC)
Index Number	:	N/A
REACH registration No.	:	N/A

1.2 Relevant identified uses of the substance and uses advised against:

Herbicide

1.3 Details of the Manufacturer / Supplier of the safety data sheet:

Supplier	CIBA AGRIPHARMA SARL 78 Boulevard Haussmann 75008 Paris , France
Tel	Tel: +33 6 51 39 90 00
E-mail	administration@ciba- agripharma.com
Webpage	www. ciba- agripharma.com

1.4 Emergency Phone Number (24 hours)

+33 6 51 39 90 00

2.0 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Chronic aquatic toxicity: Category 1
H410 Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Hazard label for supply/use required.

Hazardous components which must be listed on the label:

- Ethofumesate

- Phenmedipham
- Desmedipham

Signal word: Warning

Hazard statements

H410	Very toxic to aquatic life with long lasting effects.
EUH401	To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements

P501	Dispose of contents/container in accordance with local regulation.

2.3 Other hazards

No other hazards known.

3.0 COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Chemical nature

Emulsifiable concentrate (EC)
Ethofumesate/Phenmedipham/Desmedipham 112:91:71 g/l

Hazardous components

Hazard statements according to Regulation (EC) No. 1272/2008

Name	CAS-No. / EC-No. / REACH Reg. No.	Classification REGULATION (EC) No 1272/2008	Conc. [%]
Ethofumesate	26225-79-6 247-525-3	Aquatic Chronic 2, H411	10,3
Phenmedipham	13684-63-4 237-199-0	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	8,35
Desmedipham	13684-56-5 237-198-5	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	6,51
Tributyl phenol polyglycol ether	9046-09-7	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Chronic 2, H411	> 10,0 – < 25,0
Phenol ethoxylate phosphate ester	39464-70-5	Eye Dam. 1, H318 Skin Irrit. 2, H315	> 1,0 – < 5,0
iso-Tridecyl alcohol, ethoxylated, phosphated	73038-25-2	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 3, H412	> 1,0 – < 3,0

Further information

Phenmedipham	13684-63-4	M-Factor: 1 (acute)
Desmedipham	13684-56-5	M-Factor: 10 (acute), 10 (chronic)

For the full text of the H-Statements mentioned in this Section, see Section 16.

4.0 FIRST AID MEASURES

4.1 Description of first aid measures

General advice	Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.
Inhalation	Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.
Skin contact	Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Do NOT induce vomiting. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	If large amounts are ingested, the following symptoms may occur: Drowsiness, Headache, Lethargy, Tremors, Ataxia Symptoms and hazards refer to effects observed after intake of significant amounts of the active ingredient(s).

4.3 Indication of any immediate medical attention and special treatment needed

Risks	This product, although being a carbamate, is NOT a cholinesterase inhibitor.
Treatment	Treat symptomatically. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. There is no specific antidote. Forced alkaline diuresis and hemodialysis may be considered.

5.0 FIRE – FIGHTING MEASURES

5.1 Extinguishing media

Suitable	Water spray, Carbon dioxide (CO2), Foam, Sand
Unsuitable	High volume water jet
5.2 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), Oxides of phosphorus, Sulphur oxides, Nitrogen oxides (NOx)

5.3 Advice for firefighters

Special protective equipment for firefighters	In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.

Further information	Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

6.0 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Precautions	Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment.
6.2 Environmental precautions	Do not allow to get into surface water, drains and ground water.

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, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal.
Additional advice	Check also for any local site procedures.
6.4 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.

7.0 HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling	No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice. Ensure adequate ventilation.
Hygiene measures	Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands before breaks and immediately after handling the product. Remove soiled clothing immediately and clean thoroughly before using again.

7.2 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. Protect from frost. Keep away from direct sunlight.

Advice on common storage	Keep away from food, drink and animal feedingstuffs.
Suitable materials	in process
7.3 Specific end use(s)	Refer to the label and/or leaflet.

8.0 EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Ethofumesate	26225-79-6	10 mg/m3		OES BCS*
		(TWA)		
Phenmedipham	13684-63-4	1,5 mg/m3 (TWA)		OES BCS*
Desmedipham	13684-56-5	1,2 mg/m3 (TWA)		OES BCS*

8.2 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

Wear respirator with an organic vapours and gas filter mask (protection factor 10) conforming to EN140 type A or equivalent. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

Hand protection

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Wash gloves when contaminated. Dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.

Material	Nitrile rubber
Rate of permeability	> 480 min
Glove thickness	> 0,4 mm
Protective index	Class 6
Directive	Protective gloves complying with EN 374.

Eye protection

Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

Skin and body protection

Wear standard coveralls and Category 3 Type 6 suit.
If there is a risk of significant exposure, consider a higher protective type suit.
Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.
If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully remove and dispose of as advised by manufacturer.

9.0 PHISICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	clear to slightly turbid, Liquid
Colour	yellow to brown
Odour	characteristic
pH	1,8 - 3,0 at 10 % (23 °C) (deionized water)
Flash point	143 °C
Ignition temperature	420 °C
Density	ca. 1,09 g/cm³ at 20 °C
Water solubility	emulsifiable
Partition coefficient: n-octanol/water	Ethofumesate: log Pow: 2,7 at 25 °C Phenmedipham: log Pow: 3,59 Desmedipham: log Pow: 3,39 Ethoxylated alcohols: log Pow: 1,97
Viscosity, kinematic	ca. 137 mm²/s at 40 °C
Impact sensitivity	Not impact sensitive.
Oxidizing properties	No oxidizing properties
Explosivity	Not explosive 92/69/EEC, A.14 / OECD 113
9.2 Other information	Further safety related physical-chemical data are not known.

10.0 STABILITY AND RELIABILITY

10.1 Reactivity

Thermal decomposition	Stable under normal conditions.
10.2 Chemical stability	Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.
10.4 Conditions to avoid	Extremes of temperature and direct sunlight.
10.5 Incompatible materials	Store only in the original container.
10.6 Hazardous decomposition products	No decomposition products expected under normal conditions of use.

11.0 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity	LD50 (Rat) 3.255 mg/kg
Acute inhalation toxicity	During intended and foreseen applications, no respirable aerosol is formed.
Acute dermal toxicity	LD50 (Rat) > 5.000 mg/kg

Skin irritation	Slight irritant effect - does not require labelling. (Rabbit)
Eye irritation	Slight irritant effect - does not require labelling. (Rabbit)
Sensitisation	Non-sensitizing. (Guinea pig) OECD Test Guideline 406, Buehler test

Assessment STOT Specific target organ toxicity – single exposure

Ethofumesate: Based on available data, the classification criteria are not met.

Phenmedipham: Based on available data, the classification criteria are not met.

Desmedipham: Based on available data, the classification criteria are not met.

Assessment STOT Specific target organ toxicity – repeated exposure

Ethofumesate did not cause specific target organ toxicity in experimental animal studies.
Phenmedipham caused haemolytic anaemia, methaemoglobinaemia in animal studies. The observed effects do not appear to be relevant for humans.
Desmedipham caused methaemoglobinaemia, haemolytic anaemia in animal studies. The observed effects do not appear to be relevant for humans.
Ethoxylated alcohols did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

Ethofumesate was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Phenmedipham was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.
Desmedipham was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.
Ethoxylated alcohols was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Ethofumesate was not carcinogenic in lifetime feeding studies in rats and mice.
Phenmedipham was not carcinogenic in lifetime feeding studies in rats and mice.
Desmedipham was not carcinogenic in lifetime feeding studies in rats and mice.
Ethoxylated alcohols was not carcinogenic in lifetime feeding studies in rats and mice.

Assessment toxicity to reproduction

Ethofumesate did not cause reproductive toxicity in a two-generation study in rats.
Phenmedipham caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Phenmedipham is related to parental toxicity.
Desmedipham caused a reduced litter size and a reduced pup weight. The reproduction toxicity seen with Desmedipham is related to parental toxicity.
Ethoxylated alcohols did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Ethofumesate did not cause developmental toxicity in rats and rabbits.
Phenmedipham caused developmental toxicity only at dose levels toxic to the dams. Phenmedipham caused a delayed ossification of foetuses. The developmental effects seen with Phenmedipham are related to maternal toxicity.

Desmedipham caused developmental toxicity only at dose levels toxic to the dams. Desmedipham caused a delayed ossification of foetuses, an increased incidence of variations. The developmental effects seen with Desmedipham are related to maternal toxicity.
Ethoxylated alcohols did not cause developmental toxicity in rats and rabbits.

Aspiration hazard

Based on available data, the classification criteria are not met.

12.0 ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) 13,4 mg/l static test; Exposure time: 96 h

Toxicity to aquatic invertebrates

EC50 (Daphnia magna (Water flea)) 2,8 mg/l static test;
Exposure time: 48 h

Chronic toxicity to aquatic invertebrates

NOEC (Daphnia (water flea)): 0,01 mg/l
Exposure time: 21 d
The value mentioned relates to the active ingredient desmedipham.

Toxicity to aquatic plants	IC50 (Raphidocelis subcapitata (freshwater green alga)) 8,54 mg/l Exposure time: 72 h

12.2 Persistence and degradability

Biodegradability	Ethofumesate: Not rapidly biodegradable Phenmedipham: Not rapidly biodegradable Desmedipham: Not rapidly biodegradable Ethoxylated alcohols: Not rapidly biodegradable
Koc	Ethofumesate: Koc: 147 Phenmedipham: Koc: 888 Desmedipham: Koc: > 5000 Ethoxylated alcohols: Koc: 8913

12.3 Bioaccumulative potential

Bioaccumulation	Ethofumesate: Bioconcentration factor (BCF) 144 Does not bioaccumulate. Phenmedipham: Bioconcentration factor (BCF) 165 Does not bioaccumulate. Desmedipham: Bioconcentration factor (BCF) 157 Does not bioaccumulate. Ethoxylated alcohols: Bioconcentration factor (BCF) 12,7 Does not bioaccumulate.

12.4 Mobility in soil

Mobility in soil	Ethofumesate: Moderately mobile in soils Phenmedipham: Slightly mobile in soils Desmedipham: Immobile in soil Ethoxylated alcohols: Immobile in soil

12.5 Results of PBT and vPvB assessment

PBT and vPvB assessment	Ethofumesate: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be

very persistent and very bioaccumulative (vPvB).
Phenmedipham: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).
Desmedipham: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).
Ethoxylated alcohols: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

12.6 Other adverse effects

Additional ecological information	No other effects to be mentioned.

13.0 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product	In accordance with current regulations and, if necessary, after consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant.
Contaminated packaging	Not completely emptied packagings should be disposed of as hazardous waste.
Waste key for the unused product	**02 01 08*** agrochemical waste containing hazardous substances

14.0 TRANSPORT INFORMATION

ADR/RID/ADN

14.1 UN number	**3082**
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PHENMEDIPHAM, DESMEDIPHAM, ETHOFUMESATE SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES
Hazard no.	90

This classification is in principle not valid for carriage by tank vessel on inland waterways. Please refer to the manufacturer for further information.

IMDG

14.1 UN number	**3082**
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PHENMEDIPHAM, DESMEDIPHAM, ETHOFUMESATE SOLUTION)
14.3 Transport hazard class(es)	9

14.4 Packing group	III
14.5 Marine pollutant	YES

IATA

14.1 UN number	**3082**
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PHENMEDIPHAM, DESMEDIPHAM, ETHOFUMESATE SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES

14.6 Special precautions for user
See sections 6 to 8 of this Safety Data Sheet.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code
No transport in bulk according to the IBC Code.

15.0 REGULATORY INFORMATION

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

Further information

WHO-classification: III (Slightly hazardous)

15.2 Chemical safety assessment

A chemical safety assessment is not required.

16.0 OTHER INFORMATION

The information contained herein relates only to the specified material identified. CIBA AGRIPHARMA., believes that such information is accurate and reliable as of the data of this material safety data sheet, but no representation, guarantee or warranty, expressed or implied, is made as to the accuracy, reliability, or completeness of the information. CIBA AGRIPHARMA urges persons receiving this information to make their own determination as to the information's suitability and completeness for their particular application. No liability will be accepted for any injury, loss or damage resulting from any failure to take account of information or advice contained in this safety data sheet.