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I.- IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY

1.1 Product identifier: CICLOPE (Clodinafop-propargyl 10% + cloquintocet-mexyl 2.5%).

1.2 Relevant identified uses of the mixture and uses advised against: Plant Protection Product: Agricultural Herbicide only with Clodinafop-propargyl and cloquintocet-mexyl as active substances.

1.3 Details of the supplier of the safety data sheet:

Industrias AFRASA, S.A.
 c/ Ciudad de Sevilla, 53. Tel: 96 132 17 00, Fax: 96 132 17 16,
 46988 Pol. Ind. Fuente del Jarro. Paterna. VALENCIA (ESPAÑA)
www.afrasa.es afrasa@afrasa.es fmonfort@afrasa.es

1.4 Emergency telephone number:

National advisory body/Poison Center Telephone number: 111.

II.- HAZARDS IDENTIFICATION

2.1 Classification of the preparation:

According to classification rules (UE) of 1272/2008 (CLP): Aspiration tox, Cat.1; Skin sensitisation. Cat 1; Aquatic chronic. Cat 1.

2.2 Label elements:

According to classification 1272/2008 (CLP):

Pictogram:



Signal word: Danger

Hazard statements:

H304: May be fatal if swallowed and enters airways.

H317: May cause an allergic skin reaction.

H319: Causes serious eye irritation.

H373: May cause damage to organs through prolonged or repeated exposure.

H411: Toxic to aquatic life with long lasting effects.

EUH401: To avoid risks to human health and the environment, comply with the instructions for use.

General precautionary Statements: none.

Prevention precautionary statements:

P261: Avoid breathing fumes or spray.

P264: Wash hands thoroughly after handling.

P272: Contaminated work clothing should not be allowed out of the workplace.

P280: Wear protective gloves, protective clothing, eye protection and face protection.

Response precautionary statements:


P301+ P310: IF SWALLOWED: Immediately 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.

P314: Get medical advice/attention if you feel unwell.

P331: Do NOT induce vomiting.

P337+P313: If eye irritation persists get medical advice/attention.

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Storage precautionary statements:

P405: Store locked up.







Disposal precautionary statements:

P501: Dispose of contents/ container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.


2.3 Other hazards: None.

III.- COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixtures. Hazardous components:

DANGEROUS COMPONENT	IDENTIFIERS CAS nr./ CE nr. REACH Nr.	% w/v	CE Classification REGULATION (CE) 1272/2008 [CLP]
CLODINAFOP-PROPARGYL	105512-06-9	10%	Acute Tox. Cat.4: H302 Skin Sens, Cat. 1: H317 STOT-RE, Cat.2 : H373 Aquatic Acute, Cat. 1; Aquatic Chronic, Cat. 1: H410 (M=1)  Warning
CLOQUINTOCET-MEXYL	9960770-2	2.5 %	Skin Sens, Cat. 1: H317. Aquatic Acute, Cat. 1: H400 Aquatic Chronic, Cat 1: H410  Warning
Calcium Dodecylbencensulfonate 60%	26264-06-2	<5%	Eye Damage, Cat. 1: H318 Skin Irr. Cat. 2: H315  Danger
Butylated hydroxytoluene	128-37-0	1%	Aquatic acute, Cat. 1: H400 Aquatic chronic, At.1: H410  Warning.
Propylene Carbonate	108-32-7	15%	Eye irritation, Cat.2: H319  Warning.
NAFTA AROMATICA DE ALTO PUNTO DE INFLAMACION	64742-94-5	>60%	Asp. Tox, Cat 1; H304  Danger

Full text of hazards statements in section XVI. STOT- SE: Specific target organ toxicity-single exposure

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IV.- FIRST AID MEASURES

4.1 Description of first aid measures:

General advice: Have the product container, label or material safety data sheet with you when calling a poison center.

Inhalation: Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or poison control centre immediately.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

Skin contact: Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.

Ingestion: IF SWALLOWED, seek medical advice immediately and show this container or label. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

4.2 Most important symptoms and effects, both acute and delayed. Potential acute health effects:

Symptoms: Aspiration may cause pulmonary oedema and pneumonitis.

4.3 Indication of any immediate medical attention and special treatment needed

Medical advice: There is NO specific antidote available. Treat symptomatically. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

V.- FIREFIGHTING MEASURES

5.1 Extinguishing media:

Suitable extinguishing media-small fires: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide, pulverised water, standard foam.

Suitable extinguishing media-large fires: Alcohol-resistant foam. Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture:

As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10).

Exposure to decomposition products may be a hazard to health. Flash back possible over considerable distance.


5.3 Advice for firefighters. Special protective actions for fire fighters: Wear full protective clothing and self-contained breathing apparatus.

VI.- ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and cleaning up: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for

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disposal according to local/ national regulations (see section 13). If the product contaminates rivers and lakes or drains inform respective authorities.

6.4 Reference to other sections: Refer to protective measures listed in sections 7 and 8. Refer to disposal considerations listed in section 13.

VII.- HANDLING AND STORAGE

7.1 Precautions for safe handling: No special protective measures against fire required. Avoid contact with skin and eyes. When using do not eat, drink or smoke. For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities: No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs. Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

7.3 Specific end use(s): Registered crop protection products: For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

VIII.- EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:

COMPONENTS	EXPOSURE LIMIT	TYPE OF EXPOSURE LIMIT
Clodinafop-propargyl	1 mg/m ³	8 h TWA
Cloquintocet-mexyl	10 mg/m ³	8 h TWA
Solvent naphtha (petroleum), highly arom.	20 ppm, 100 mg/m ³	8 h TWA

The following recommendations for exposure controls/personal protection are intended for the manufacture, formulation and packaging of the product.

8.2 Exposure controls:

Engineering measures: Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use. If airborne mists or vapours are generated, use local exhaust ventilation controls. Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit. Where necessary, seek additional occupational hygiene advice.


Protective measures: The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice. Personal protective equipment should be certified to appropriate standards.

- **Control of occupational exposure:** Risk Assessment.

Respiratory protection:



A combination gas, vapour and particulate respirator may be necessary until effective technical measures are installed. Protection provided by air-purifying respirators is limited. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

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Hand protection:



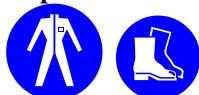
Chemical resistant gloves are not usually required. Select gloves based on the physical job requirements.

Eye protection:



Eye protection is not usually required. Follow any site specific eye protection policies.

Skin protection and body:



No special protective equipment required. Select skin and body protection based on the physical job requirements.

IX.- PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Physical state: Liquid

Colour: dark yellow

Odour: Characteristic.

pH: 4.5 (1% aq.solution).

Melting point/freezing point: Not applicable. It's a liquid.

Initial boiling point and boiling range: Not available.

Flash point: 68 ° C.

Evaporation rate: Not available

Flammability (solid, gas): Not flammable. Not auto-flammable.

Upper/lower flammability or explosive limits: No data available

Vapour pressure(25°C): Not data available.

Relative density(20°C): 0.9611 g/cc a 20°C.

Solubility:

-Hydrosolubility: Insoluble in water, although the preparation forms homogeneous, stable emulsions

-Liposolubility (solvent oil to be specified): Not available.

Partition coefficient: n-Octanol/water: Clodinafop-propargyl: K_{ow} Log P = 3.9; Cloquintocet-mexyl: K_{ow} Log P = 5.20

Auto_ignition temperature : Not available

Decomposition temperature: Not available

Viscosity: Dynamic: 20°C=2.84 cP; 40°C=2.60cP.

Kinematic: 20°C=2.96 cSt; 40°C=2.71 cSt.

Explosive properties: Not explosive. None (based on their ingredients do not have this property).

Oxidizing properties: Not exhibit oxidizing behaviour (based on their ingredients do not have this property).

9.2 Other information:


Surface tension: 29.1 mN/m.

X.- STABILITY AND REACTIVITY

10.1 Reactivity: No information available.

10.2 Chemical stability: Stable at normal pressure and temperature during two years under normal conditions of storage.

10.3 Possibility of hazardous reactions: None known. Hazardous polymerisation does not occur.

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10.4 Conditions to Avoid: No information available.

10.5 Incompatible materials: No information available.

10.6 Hazardous decomposition products: Combustion or thermal decomposition will evolve toxic and irritant vapours.

XI.- TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

11.1.1 Acute toxicity:

Acute toxicity

Acute toxicity – ORAL

DL₅₀ mg/kg (rats)

Acute toxicity – DERMAL

DL₅₀ mg/kg (rats)

Acute toxicity – INHALATION

CL₅₀ mg/L air. (rats)

CICLOPE

LD₅₀ = 5000 mg/kg bw

LD₅₀ >2000 mg/kg bw

LC₅₀ > 5.309 mg/L air

11.1.2 Irritation:

- ♦ **Eye irritation:** Irritating to eyes (rabbits).
- ♦ **Skin irritation :** Mild irritant (rabbits). R38

11.1.3 Corrosivity: Not data available.

11.1.4 Sensitisation: Skin sensitizer.

11.1.5 Repeated dose toxicity: No data available.

11.1.6 Carcinogenicity: Not data available.

11.1.7 Mutagenicity: Not data available.

11.1.8 Toxicity for reproduction: Not data available.

11.2 Effect on likely routes of exposure:

Inhalation: None.

Ingestion: None.

Skin contact: May cause irritation if absorbed through the skin.

Eye contact: Eye irritant. May cause eye irritation.

11.3 Symptoms related to the physical, chemical and toxicological information: Not likely symptoms development Irritation of eyes and skin irritation, skin sensitization, dermatitis . Gastrointestinal and respiratory disorders.

11.4 Effects chronically delayed and immediate exposure: No data available.

11.5 Effects Interactive: Not available.

XII.- ECOLOGICAL INFORMATION

12.1 Toxicity:


Acute aquatic toxicity:

Aquatic Toxicity: Toxic to aquatic organisms.

Acute:

Toxicity to Fish: *Lepomis macrochirus*: CL₅₀, 96h = 0.2144 mg as/ l

Toxicity to aquatic invertebrates: *Crassostrea virginica* EC₅₀ 96 h = 0,77 mg as/ l

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Toxicity Algae and other Aquatic Plants:

Scenedesmus subspicatus EbC₅₀/ErC₅₀>1.6.

Lemna Gibba: EC₅₀ 14 d >1.4.

Chronic:

Toxicity to Fish: *Oncorhynchos mykiss*: 21d NOEC= 0.10 mg as/l

Toxicity Daphnia: *Daphnia magna*: 22d NOEC=0.23 mg as /l

Toxicity Algae and other Aquatic Plants: Not available.

Toxicity to soil micro and macroorganisms:

Microorganisms: Not available

Macroorganisms: Not available

Acute toxicity on other environmentally relevant organisms:

Avian toxicity: Acute Oral Bobwhite Quail: LD₅₀= 1363 mg/kg bw. Mallard Duck: LD₅₀> 1874 mg/kg bw.

Toxicity to bees:

LD₅₀ (24h) by contact > 97.3 mg / bee LD₅₀ (24h) oral 40.9 mg / bee.

Toxicity to e-worms: Acute LC₅₀=197 mg/kg.

12.2 Persistence and degradability: In animals, hydrolysed to the corresponding acid, which is excreted in urine and faeces. In plants, rapidly degraded to the acid derivative as major metabolite.

12.3 Bioaccumulative potential: K_{ow} log P= 3.9 (for clodinafop-propargyl).

12.4 Mobility in soil: Clodinafop-propargyl, in soil, undergoes rapid degradation to the free acid (DT₅₀<2 h) and then further to phenyl and pyridine moieties, which are bound to the soil and mineralised. The free acid is mobile in soil, but is further degraded with DT₅₀ 5-20 d; in practice, there is a negligible leaching potential.

12.5 Results of PBT and vPvB assessment: This preparation contains no substance considered to be persistent, bioaccumulative and toxic (PBT). This preparation contains no substance considered to be very persistent or bioaccumulative (vPvB).

12.6 Other adverse effects: None

XIII.- DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Suitable disposal methods of preparation:

Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

Suitable disposal methods for Packaging: Empty remaining contents. Triple rinse containers. Empty containers should be taken to an approved waste handling site for recycling or disposal.


Do not re-use empty containers.

XIV.- TRANSPORT INFORMATION

Road Transport (ADR/RID) - Maritime (IMDG)

14.1 UN number: 3082

14.2 UN proper shipping name:

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ADR/RID: “UN3082, Environmentally hazardous substance, liquid, n.o.s. (Clodinafop-propargyl + naphtha) 9, III, (E)”

IMDG: “UN3082, Environmentally hazardous substance, liquid, n.o.s. (Clodinafop-propargyl + naphtha)”

14.3 Transport hazard class(es): 9.

14.4 Packing group: III

14.5. Environmental hazards:

ADR /RID: Dangerous for the environment.

IMDG: Marine pollutant.

Maritime transport IMDG:

Class/p.g.: 9 / III

UN No.: 3082

Brand Marine pollutant: Yes **Labels:** Marine pollutant & 9.

Air Transport Association (IATA): “UN3082, Environmentally hazardous substance, liquid, n.o.s. (Clodinafop-propargyl + naphtha)” **Class:** 3 **Packing group:** III. **UN No.:** 3082

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not authorized bulk transport of this product. Can be transported only in approved packaging.

Note: ADR Limited Quantities Exemption: Combined packages with a total weight not greater than 30 kg are exempt provided each individual package do not exceed 5 liter.

XV.- REGULATORY INFORMATION

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

Directive 91/689/EEC on hazardous waste.

Directive 91/156/EEC on waste.

EC Regulation 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals REACH.

Regulation (EU) No. 453/2010, amending Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Regulation (EU) No. 2015/830, amending Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Regulation (EC) 1272/2008 on classification, labelling and packaging of substances and mixtures.

European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).

International Maritime Dangerous Goods (IMDG: International Maritime Dangerous Goods)

Dangerous Goods Regulations by the International Air Transport Association (IATA: International Air Transport Association)

15.2 Chemical safety assessment: Not carried out the chemical safety assessment for the mixture

XVI.- OTHER INFORMATION


Reason for the revision: Initial.

Abbreviations and acronyms:

CL₅₀: Average Letal Concentration

DL₅₀: Average Letal Dose

ADI: Acceptable Daily Intake

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AOEL: Operator acceptable exposure level.

b.w.: body weight

DT₅₀: Half degradation Time

CE₅₀: Effective average Concentration

LOAEL: Lower observed adverse effect level.

NOAEL: No observed adverse effect level.

NOEL: No observed effect level

ARfD: Acute Reference Dose

NOEC: No observed effect concentration.

K_{oc}: Adsorption Coefficient of organic carbon

ADR: European Agreement concerning International Road Transport of Dangerous Goods

RID: European Agreement concerning International Railroad Transport of Dangerous Goods

IMDG: International Maritime Dangerous Goods

IATA: International Air Transport Association.

ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.

Data Bases Consulted:

ESIS: European System Information of Chemical Substances;

FOOTPRINT (2007/2008)

AGRITOX - Data Base on active substances.

Book References:

“The Pesticide Manual”, version 3.2 2005-06, 13^a Edition, Editor: CDS Tomlin; Manual Toxicológico de Productos Fitosanitarios para Uso Sanitario – Instituto Nacional de Toxicología / AEPLA (Asociación Empresarial para la Protección de las Plantas (España).

Full text of hazard statements mentioned in section III:

H302: Harmful if swallowed.

H304: May be fatal if swallowed and enter airways.

H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H318: Causes serious eye damage

H319: Causes serious eye irritation.

H373: May cause damage to organs through prolonged or repeated exposure.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

Recommendations concerning training: Agricultural herbicide. USE RESTRICTED TO FARMERS AND PROFESSIONAL AGRICULTURAL SPRAY APPLICATORS for approved agricultural crops and cultures as stated in the label. The user should refer to all laws known to him.

WARNING: READ THE PACKAGE LEAFLET BEFORE USE.

To be used exclusively for the uses and conditions set forth in this label.

Any person who uses the product is responsible for any damages caused by improper preparation.

The scruple of all information contained in the label is essential to ensure the effectiveness of the treatment and to avoid damage to plants, people and animals.

Do not apply with aircraft.

Operate in the absence of wind.

Do not sell in bulk.

To avoid risks to man and the environment, comply with the instructions for use.


Do not contaminate other crops, foods and drinks or water courses.

Dispose of packaging according to regulations.

The container must be emptied completely and not released into the environment.

The container cannot be reused.

Recommendations concerning usage: This material safety data sheet has been issued in accordance with. CLP, REACH Regulation 1907/2006/CE, and its amendments 453/2010 Regulation and 2015/830 Regulation.

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The data included in this material safety data sheet are based on the best of our knowledge and are as accurate as possible. However, the above named supplier, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. They do not constitute a contractual guarantee of the product's properties. They must not be altered nor transferred to other products. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.