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CVR No. DK 12 76 00 43

SAFETY DATA SHEET

MOJANTE

Revision: Sections containing a revision or new information are marked with a ♣.

♣ SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. **Product identifier** ..... **MOJANTE**
Contains isotridecanol, ethoxylated and formaldehyde

1.2. **Relevant identified uses of the substance or mixture and uses advised against** ..... Can be used as adjuvant for plant protection products only.

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

CHEMINOVA A/S, a subsidiary of FMC Corporation
Thyborønvej 78
DK-7673 Harboøre
Denmark
SDS.Ronland@fmc.com

1.4. **Emergency telephone number**

Medical emergencies:

Austria: +43 1 406 43 43
Belgium: +32 70 245 245
Bulgaria: +359 2 9154 409
Cyprus: 1401
Czech Republic: +420 224 919 293
+420 224 915 402
Denmark: +45 82 12 12 12
England and Wales: 111
France: +33 (0) 1 45 42 59 59
Finland: +358 9 471 977
Greece: 30 210 77 93 777
Hungary: +36 80 20 11 99
Ireland (Republic): +353 1 837 9964
Italy: +39 02 6610 1029
Lithuania: +370 523 62052
+370 687 53378
Luxembourg: +352 8002 5500
Netherlands: +31 30 274 88 88
Norway: +47 22 591300
Poland: +48 22 619 66 54
+48 22 619 08 97
Portugal: 808 250 143 (in Portugal only)
+351 21 330 3284
Romania: +40 21318 3606
Scotland: +8454 24 24 24
Slovakia: +421 2 54 77 4 166
Slovenia: +386 41 650 500
South Africa: +27 83 123 3911 (Bateleur Emergency Response Co.)
Spain: +34 91 562 04 20
Sweden: +46 08-331231
112
Switzerland: 145
Turkey: 114
U.S.A. & Canada: +1 800 / 331 3148 (ProPharma)
All other countries: +1 651 / 632 6793 (ProPharma - Collect)

For fire, leak, spill or other accident emergencies:

U.S.A.: +1 800 / 424 9300 (CHEMTREC)
All other countries: +1 703 / 741 5970 (CHEMTREC - Collect)

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♣ SECTION 2: HAZARDS IDENTIFICATION

2.1. **Classification of the substance or mixture**
Eye damage: Category 1 (H318)
Carcinogenicity: Category 1B (H350)

Health hazards ..... The product contains formaldehyde which can cause cancer. The product has irritating properties.

Environmental hazards ..... Serious hazards in the aquatic environment are not expected.

2.2. **Label elements**

According to EU Reg. 1272/2008 as amended

Product identifier ..... Mojante
Contains isotridecanol, ethoxylated and formaldehyde

Hazard pictograms (GHS05, GHS08)

Signal word ..... Danger

Hazard statements
H318 ..... Causes serious eye damage.
H350 ..... May cause cancer.

Precautionary statements
P201 ..... Obtain special instructions before use.
P202 ..... Do not handle until all safety precautions have been read and understood.
P280 ..... Wear protective gloves, protective clothing and eye protection.
P305+P351+P338 ..... IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 ..... Immediately call a POISON CENTER or doctor/physician.
P501 ..... Dispose of contents/container as hazardous waste.

2.3. **Other hazards** ..... None of the ingredients meets the criteria for being PBT or vPvB.

♣ SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. **Substances** ..... The product is a mixture, not a substance.

3.2. **Mixtures** ..... See section 16 for full text of hazard statements.

Reportable ingredients	Content (% w/w)	CAS no.	EC no. (EINECS no.)	Classification
Isotridecanol, ethoxylated	20	9043-30-5		Acute Tox. 4 (H302) Eye Dam. 1 (H318)

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Formaldehyde	0.2	50-00-0	200-001-08	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Skin Corr. 1B (H314) Skin Sens. 1 (H317) Muta 2 (H341) Carc. 1B (H350)

♣ SECTION 4: FIRST AID MEASURES

4.1. **Description of first aid measures** — If exposure has occurred, do not wait for symptoms to develop, but immediately start the procedures described below.

Inhalation ..... If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambulance.

Skin contact ..... Immediately flush skin with much water while removing contaminated clothing and footwear. Wash with water and soap. See physician if any symptom develops.

Eye contact ..... Immediately rinse eyes with much water or eyewash solution, occasionally opening eyelids, until no evidence of chemical remains. Remove contact lenses after a few minutes and rinse again. Get medical attention if irritation persists.

Ingestion ..... Inducing vomiting is not recommended. Rinse mouth and drink water or milk. If vomiting does occur, rinse mouth and drink fluids again. Get medical attention immediately.

4.2. **Most important symptoms and effects, both acute and delayed** — Eye irritation.

4.3. **Indication of any immediate medical attention and special treatment needed** — Immediate medical attention is required in case of ingestion.

It may be helpful to show this safety data sheet to physician.

Notes to physician ..... A specific antidote against this substance is not known. Gastric lavage and/or administration of activated charcoal can be considered.

♣ SECTION 5: FIRE-FIGHTING MEASURES

5.1. **Extinguishing media** ..... Dry chemical or carbon dioxide for small fires, water spray or foam for large fires. Avoid heavy hose streams.

5.2. **Special hazards arising from the substance or mixture** — The essential breakdown products are carbon monoxide and carbon dioxide.

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5.3. **Advice for firefighters** ..... Use water spray to keep fire-exposed containers cool. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Fight fire from protected location or maximum possible distance. Dike area to prevent water runoff. Firemen should wear self-contained breathing apparatus and protective clothing.

♣ SECTION 6: ACCIDENTAL RELEASE MEASURES

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

It is recommended to have a predetermined plan for the handling of spills. Empty, closable vessels for the collection of spills should be available.

In case of large spill (involving 1 tonne of the product or more):
1. use personal protection equipment; see section 8
2. call emergency telephone no.; see section 1
3. alert authorities.

Observe all safety precautions when cleaning up spills. Use personal protection equipment. Depending on the magnitude of the spill this may mean wearing eye protection, chemical resistant clothing, gloves and boots.

Stop the source of the spill immediately if safe to do so. Keep unprotected persons away from the spill area. Avoid and reduce mist formation as much as possible.

6.2. **Environmental precautions** ..... Contain the spill to prevent any further contamination of surface, soil or water. Wash waters must be prevented from entering surface water drains. Uncontrolled discharge into water courses must be alerted to the appropriate regulatory body.

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

It is recommended to consider possibilities to prevent damaging effects of spills, such as bunding or capping. See GHS (Annex 4, Section 6).

If appropriate, surface water drains should be covered. Minor spills on the floor or other impervious surface should be absorbed onto an inert absorbent such as universal binder, Fuller's earth, bentonite or other absorbent clay. Transfer to suitable containers. Clean area with strong industrial detergent and much water. The used containers should be properly closed and labelled.

Large spills which soak into the ground should be dug up and transferred to suitable containers.

Spills in water should be contained as much as possible by isolation of the contaminated water. The contaminated water must be collected and removed for treatment or disposal.

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6.4. **Reference to other sections** ..... See subsection 8.2. for personal protection.
See section 13 for disposal.

♣ SECTION 7: HANDLING AND STORAGE

7.1. **Precautions for safe handling** .... In an industrial environment, it is recommended to avoid all personal contact with the product, if possible by using closed systems with remote system control. The material should be handled by mechanical means as much as possible. Adequate ventilation or local exhaust ventilation is required. The exhaust gases should be filtered or treated otherwise. For personal protection in this situation, see section 8.

For its use as a pesticide adjuvant, first look for precautions and personal protection measures on the officially approved label on the packaging or for other official guidance or policy in force. If these are lacking, see section 8.

Remove contaminated clothing immediately. Wash thoroughly after handling. After work, take off all work clothes and footwear. Take a shower, using water and soap. Wear only clean clothes when leaving job. Wash protective clothing and protective equipment with water and soap after each use.

Do not discharge to the environment. Do not contaminate water when disposing of equipment wash waters. Collect all waste material and remains from cleaning equipment, etc., and dispose of as hazardous waste. See section 13 for disposal.

7.2. **Conditions for safe storage, including any incompatibilities** The product is stable for two years under normal conditions of warehouse storage.

Store in closed, labelled containers. The storage room should be constructed of incombustible material, closed, dry, ventilated and with impermeable floor, without access of unauthorised persons or children. The room should only be used for storage of chemicals. Food, drink, feed and seed should not be present. A hand wash station should be available.

7.3. **Specific end use(s)** ..... The product may only be used as adjuvant to plant protection products.

♣ SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. **Control parameters**
Personal exposure limits ..... To our knowledge, not established for isotridecanol, ethoxylated.

		Year	
Formaldehyde	ACGIH (USA) TLV	2015	Ceiling 0.3 ppm (0.37 mg/m^3) Notice of intended change

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OSHA (USA) PEL	2015	TWA 0.75 ppm Ceiling 2 ppm See 29 CFR 1910.1048(c)
EU, 2000/39/EC as amended	2009	Not established
Germany, MAK	2014	TWA 0.3 ppm (0.37 mg/m^3) Peak level 0.6 ppm (0.74 mg/m^3)
HSE (UK) WEL	2011	8-hr TWA 2 ppm (2.5 mg/m^3) STEL: 2 ppm (2.5 mg/m^3), 15-minute reference period

However, other personal exposure limits defined by local regulations may exist and must be observed.

Formaldehyde

DNEL, inhalation	9 mg/m^3
DNEL, dermal	240 mg/kg bw/day
PNEC, freshwater	0.44 mg/l
PNEC, marine water	0.44 mg/l

8.2. **Exposure controls** .....

When used in a closed system, personal protection equipment will not be required. The following is meant for other situations, when the use of a closed system is not possible, or when it is necessary to open the system. Consider the need to render equipment or piping systems non-hazardous before opening.

The precautions mentioned below are primarily meant for handling of the undiluted product and for preparing the spray solution, but can be recommended for spraying as well.

In cases of incidental high exposure, maximal personal protection may be necessary, such as face mask, chemical resistant coveralls and gloves.

Respiratory protection

The product does not automatically present an airborne exposure concern when handled carefully, but in the event of an accidental discharge of the material which produces a heavy vapour or mist, workers must put on officially approved respiratory protection equipment with a universal filter type including particle filter.

Protective gloves .....

Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber. The breakthrough times of these materials for the product are unknown, but it is expected that they will give adequate protection. It is recommended to limit the amount of work to be done manually.

Eye protection .....

Wear safety glasses. It is recommended to have an eye wash fountain immediately available in the workplace when there is a potential for eye contact.

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Other skin protection — Wear appropriate chemical resistant clothing to prevent skin contact depending on the extent of exposure. During most normal work situations where exposure to the material cannot be avoided for a limited time span, waterproof pants and apron of chemical resistant material or coveralls of polyethylene (PE) will be sufficient. Coveralls of PE must be discarded after use if contaminated. In cases of excessive or prolonged exposure, coveralls of barrier laminate may be required.

♣ SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. **Information on physical and chemical properties**

Appearance	Green liquid
Odour	Practically odourless
Odour threshold	Not determined
pH	1% solution in water: 6.8
Melting point	Not determined
Initial boiling point and boiling range	Not determined
Flash point	> 61°C
Evaporation rate	Not determined
Flammability (solid/gas)	Not applicable (liquid)
Upper/ lower flammability or explosive limits	Not determined
Vapour pressure	Not determined
Vapour density	Not determined
Relative density	Not determined Density: 1.009 g/ml at 20°C
Solubilities	Not determined
Partition coefficient n-octanol/water	Not determined
Autoignition temperature	Not determined
Decomposition temperature	Not determined
Viscosity	Not determined
Explosive properties	Not explosive
Oxidising properties	Not oxidising

9.2. **Other information**

Miscibility ..... The product is dispersible in water.

♣ SECTION 10: STABILITY AND REACTIVITY

10.1. **Reactivity** ..... To our knowledge, the product has no special reactivities.

10.2. **Chemical stability** ..... The product is stable during normal handling and storage at ambient temperatures.

10.3. **Possibility of hazardous reactions** None known.

10.4. **Conditions to avoid** ..... Heating of the product may produce harmful and irritant vapours.

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10.5. **Incompatible materials** ..... None known.

10.6. **Hazardous decomposition products** See subsection 5.2.

♣ SECTION 11: TOXICOLOGICAL INFORMATION

11.1. **Information on toxicological effects** * = Based on available data, the classification criteria are not met.

Product

Acute toxicity ..... The product is not harmful by inhalation, in contact with skin or if swallowed. * However, it should always be treated with the usual care of handling chemicals. The acute toxicity is measured as:

Route(s) of entry - ingestion LD_{50}, oral, rat: > 2000 mg/kg

- skin LD_{50}, dermal, rat: not available

- inhalation LC_{50}, inhalation, rat: not available

Skin corrosion/irritation ..... Not irritating to skin. *

Serious eye damage/irritation ..... Irritating to eyes.

Respiratory or skin sensitisation ... Not expected to be a skin sensitizer. *

Germ cell mutagenicity ..... In vitro, formaldehyde is able to induce gene mutations and chromosomal aberrations in mammalian cells. In vivo, the genotoxic effects are limited to those cells which are in direct contact with formaldehyde and no effects are observed in distant-site tissues. This is consistent with formaldehyde's high reactivity.
In conclusion, formaldehyde is a locally effective mutagen exhibiting only weak effects.

Carcinogenicity ..... There is limited evidence of a causal relationship between formaldehyde exposure by inhalation and nasal tumours.

Reproductive toxicity ..... The product contains no ingredients found to have adverse effects on reproduction. *

STOT – single exposure ..... To our knowledge, no specific effects have been observed after single exposure. *

STOT – repeated exposure ..... High reactivity and fast metabolic degradation prevent systemic availability of formaldehyde.
NOAEC for inhalation was between 1 and 2 ppm (1.2 and 2.4 mg/m^3).
Morphological lesions were seen. *

Aspiration hazards ..... The product does not present an aspiration pneumonia hazard. *

Symptoms and effects, acute and delayed ..... Eye irritation is possible.

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Formaldehyde

Acute toxicity		The substance is considered as toxic by inhalation, ingestion and skin contact. The acute toxicity is measured as:
Route(s) of entry	- ingestion	LD_{50}, oral, rat: 600 - 700 mg/kg (method similar to OECD 401)
	- skin	LD_{50}, dermal, rabbit: 270 mg/kg
	- inhalation	LC_{50}, inhalation, rat: 0.578 mg/l/4 h (method similar to OECD 403)
Skin corrosion/irritation		Formaldehyde is a skin irritant.
Serious eye damage/irritation		Formaldehyde is an eye irritant.
Respiratory or skin sensitisation ...		Formaldehyde was found to be a skin sensitizer in numerous tests on animals (a. o. OECD 406). There is no final conclusion concerning respiratory sensitisation. Findings from detailed clinical evaluations in humans suggest that it is rare if it exists at all.

♣ SECTION 12: ECOLOGICAL INFORMATION

12.1. **Toxicity** ..... The product is toxic to fish and daphnids,

The ecotoxicity of the product is measured as:

96-h LC_{50}, fish: 4 – 10 mg/l
48-h EC_{50}, daphnids (*Daphnia magna*) : 4.5 mg/l

12.2. **Persistence and degradability** .... All ingredients are readily biodegradable.

12.3. **Bioaccumulative potential** ..... Bioaccumulation is not expected.

12.4. **Mobility in soil** ..... The product is mobile in soil, but is not stable.

12.5. **Results of PBT and vPvB assessment** ..... None of the ingredients meets the criteria for being PBT or vPvB.

12.6. **Other adverse effects** ..... Other relevant hazardous effects in the environment are not known.

♣ SECTION 13: DISPOSAL CONSIDERATIONS

13.1. **Waste treatment methods** ..... Remaining quantities of the material and empty but unclean packaging should be regarded as hazardous waste.

Disposal of waste and packagings must always be in accordance with all applicable local regulations.

Disposal of product ..... According to the Waste Framework Directive (2008/98/EC), possibilities for reuse or reprocessing should first be considered. If this is not feasible, the material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing.

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Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Disposal of packaging ..... It is recommended to consider possible ways of disposal in the following order:
1. Reuse or recycling should first be considered. If offered for recycling, containers must be emptied and triply rinsed (or equivalent). Do not discharge rinsing water to sewer systems.
2. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.
3. Delivery of the packaging to a licensed service for disposal of hazardous waste.
4. Disposal in a landfill or burning in open air should only occur as a last resort. For disposal in a landfill, containers should be emptied completely, rinsed and punctured to make them unusable for other purposes. If burned, stay out of smoke.

♣ SECTION 14: TRANSPORT INFORMATION

ADR/RID/IMDG/IATA/ICAO classification

14.1. **UN number** ..... Not classified as hazardous material for transport

14.2. **UN proper shipping name** ..... Not applicable

14.3. **Transport hazard class(es)** ..... Not applicable

14.4. **Packing group** ..... Not applicable

14.5. **Environmental hazards** ..... May be harmful in the aquatic environment.

14.6. **Special precautions for user** ..... Avoid any unnecessary contact with the product. Do not discharge to the environment.

14.7. **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code** ..... The product is not transported in bulk by ship.

♣ SECTION 15: REGULATORY INFORMATION

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

Seveso category (Dir. 2012/18/EU): toxic

The employer shall assess any risks to the safety or health and any possible effect on the pregnancies or breastfeeding of workers and decide what measures should be taken (Dir. 92/85/EEC).

Young people under the age of 18 are not allowed to work with the product.

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All ingredients are covered by EU chemical legislation.

15.2. **Chemical safety assessment** ..... A chemical safety assessment is not available.

♣ SECTION 16: OTHER INFORMATION

Relevant changes in the safety data sheet ..... Minor corrections only.

List of abbreviations .....

ACGIH	American Conference of Governmental Industrial Hygienists
CFR	Code of Federal Regulations
DNEL	Derived No Effect Level
EC	European Community
EC_{50}	50% Effect Concentration
GHS	Globally Harmonized classification and labelling System of chemicals, Fifth revised edition 2013
HSE	Health & Safety Executive, UK
IBC	International Bulk Chemical code
LC_{50}	50% Lethal Concentration
LD_{50}	50% Lethal Dose
MAK	Maximale Arbeitspaltz-Konzentration
MARPOL	Set of rules from the International Maritime Organisation (IMO) for prevention of sea pollution
OECD	Organisation for Economic Cooperation and Development
OSHA	Occupational Safety and Health Administration
PBT	Persistent, Bioaccumulative, Toxic
PEL	Personal Exposure Limit
PNEC	Predicted No Effect Concentration
Reg.	Regulation
STEL	Short-Term Exposure Limit
STOT	Specific Target Organ Toxicity
TLV	Threshold Limit Value
TWA	Time Weighted Average
vPvB	very Persistent, very Bioaccumulative
WEL	Workplace Exposure Limit

References ..... Data measured on the product are unpublished company data. Data on ingredients are available from published literature and can be found several places.

Method for classification ..... Eye damage: test data
Carcinogenicity: calculation rules

Used hazard statements .....

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.

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H341	Suspected of causing genetic defects.
H350	May cause cancer.

Advice on training ..... This material should only be used by persons who are made aware of its hazardous properties and have been instructed in the required safety precautions.

The information provided in this safety data sheet is believed to be accurate and reliable, but uses of the product vary and situations unforeseen by FMC Corporation may exist. The user has to check the validity of the information under local circumstances.

Prepared by: FMC Corporation / Cheminova A/S / GHB