

SAFETY DATA SHEET

according to the Hazardous Products Regulations



MANIPULATOR 620

PRD / SDSCA / EN / 0331

Version	Revision Date:	SDS Number:	Date of last issue: 01/18/2024
1.3	03/27/2025	150000113615	Date of first issue: 09/16/2019

SECTION 1. IDENTIFICATION

Product name : MANIPULATOR 620
Product code : P5174815

Other means of identification : No data available

Manufacturer or supplier's details

Company name of supplier : Taminco BV
A Subsidiary of Eastman Chemical Company
Address : Panterschipstraat 207
Gent 08 9000
Emergency telephone number : CHEMTREC: +1-800-424-9300, +1-703-527-3887 CCN7321

Recommended use of the chemical and restrictions on use

Recommended use : Plant growth regulator

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Acute toxicity (Oral) : Category 4

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H302 Harmful if swallowed.

Precautionary statements : **Prevention:**
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.

Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

Storage:
P405 Store locked up.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Chlormequat chloride	chlormequat chloride (ISO)	999-81-5	$\geq 30 - < 60$
C9-11 alcohols, ethoxylated	C9-11 alcohols, ethoxylated	68439-46-3	$\geq 5 - < 10$
glycerin	glycerin	56-81-5	$\geq 1 - < 5$

Eastman is committed to the safety, health and environment of our employees, our customers, and the communities we operate within. As part of this commitment, Eastman's Safety Data Sheets (SDS) are prepared in accordance with all applicable national and local regulations. The compositions of our documents reflect these requirements which include, but are not limited to, requirements under the Globally Harmonized System of Classification and Labeling (GHS). These compositions commonly involve the use of ranges versus specific analytical values. If you require a composition that is more specific, please refer to the Certificate of Analysis, sales specification, or contact your Customer Service Representative.

SECTION 4. FIRST AID MEASURES

If inhaled	: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms occur.
In case of skin contact	: Wash off immediately with plenty of water for at least 15 minutes. Take off all contaminated clothing immediately. Get medical attention immediately if irritation persists.
In case of eye contact	: Rinse immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
If swallowed	: Seek medical advice.
Most important symptoms and effects, both acute and delayed	: Sweating Dizziness Headache Harmful if swallowed. Toxic if swallowed.
Notes to physician	: Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Carbon dioxide (CO ₂) Dry chemical Water spray
Unsuitable extinguishing media	: Do not use a solid water stream as it may scatter and spread fire.
Specific hazards during fire-	: Thermal decomposition can lead to release of irritating gases

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fighting and vapours.

Hazardous combustion products : Carbon monoxide
Nitrogen oxides (NO_x)

Further information : None known.

Special protective equipment for firefighters : Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Wear appropriate personal protective equipment.
Local authorities should be advised if significant spillages cannot be contained.

Environmental precautions : Avoid release to the environment.
Do not contaminate water.

Methods and materials for containment and cleaning up : Sweep up or vacuum up spillage and collect in suitable container for disposal.
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : None known.

Advice on safe handling : Avoid contact with skin, eyes and clothing.
Do not swallow.
Wash thoroughly after handling.

Conditions for safe storage : Keep tightly closed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
glycerin	56-81-5	TWA (Mist)	10 mg/m ³	CA AB OEL
		TWA (Mist)	10 mg/m ³	CA BC OEL
		TWA (Respirable mist)	3 mg/m ³	CA BC OEL
		TWAEV (Mist)	10 mg/m ³	CA QC OEL

Engineering measures : Good general ventilation (typically 10 air changes per hour)

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should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Hand protection

Remarks : Neoprene gloves Rubber gloves The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove.

Eye protection : Safety glasses

Skin and body protection : Complete suit protecting against chemicals

Protective measures : Remove respiratory and skin/eye protection only after vapors have been cleared from the area.
Ensure that eye flushing systems and safety showers are located close to the working place.
Use personal protective equipment as required.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : gold

Odour : amine-like

Odour Threshold : not determined

pH : 4 - 5.7

Melting point/ range : not determined

Boiling point/boiling range : > 100 °C

Flash point : > 100 °C

Evaporation rate : not determined

Flammability (solid, gas) : The product is not flammable.

Upper explosion limit / Upper flammability limit : not determined

Lower explosion limit / Lower : not determined

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flammability limit

Vapour pressure : < 0.00001 hPa (20 °C)

Relative vapour density : not determined

Relative density : No data available

Density : 1.13 g/cm³

Solubility(ies)
Water solubility : > 886 g/l

Partition coefficient: n-octanol/water : log Pow: -3

Auto-ignition temperature : > 350 °C

Decomposition temperature : not determined

Viscosity
Viscosity, dynamic : 42.6 mPa.s (20 °C)

Viscosity, kinematic : not determined

Explosive properties : Not explosive

Oxidizing properties : Not classified

SECTION 10. STABILITY AND REACTIVITY

Reactivity : None reasonably foreseeable.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : None known.

Conditions to avoid : None known.

Incompatible materials : Strong acids and oxidizing agents
Metals
Water

Hazardous decomposition products : Carbon dioxide (CO₂)
Carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Toxic if swallowed.

Product:

Acute oral toxicity : LD₅₀ (Rat): 300 - 2,000 mg/kg

Acute inhalation toxicity : LC₅₀ (Rat): > 5.32 mg/l
Exposure time: 4 h

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Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Components:

Chlormequat chloride:

Acute oral toxicity : LD50 Oral (Rat): 522 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.2 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 Dermal (Rabbit): 1,250 mg/kg

LD50 Dermal (Rat): > 4,000 mg/kg

Skin corrosion/irritation

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

Product:

Assessment : No skin irritation

Components:

Chlormequat chloride:

Species : Rabbit
Exposure time : 4 h
Result : No skin irritation

Serious eye damage/eye irritation

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

Product:

Result : No eye irritation

Components:

Chlormequat chloride:

Species : Rabbit
Result : No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

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

Respiratory sensitisation

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

Product:

Result : Did not cause sensitization on laboratory animals.

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Components:

Chlormequat chloride:

Result : Did not cause sensitization on laboratory animals.

Germ cell mutagenicity

Not classified due to lack of data.

Product:

Germ cell mutagenicity - Assessment : Did not show mutagenic effects in animal experiments.

Components:

Chlormequat chloride:

Germ cell mutagenicity - Assessment : Did not show mutagenic effects in animal experiments.

Carcinogenicity

Not classified due to lack of data.

Product:

Carcinogenicity - Assessment : Did not show carcinogenic effects in animal experiments.

Components:

Chlormequat chloride:

Carcinogenicity - Assessment : Did not show carcinogenic effects in animal experiments.

Reproductive toxicity

Not classified due to lack of data.

Product:

Effects on fertility : Remarks: No data available

Reproductive toxicity - Assessment : No toxicity to reproduction
Did not show teratogenic effects in animal experiments.

Components:

Chlormequat chloride:

Reproductive toxicity - Assessment : No toxicity to reproduction
Did not show teratogenic effects in animal experiments.

STOT - single exposure

Not classified due to lack of data.

Product:

Remarks : No data available

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STOT - repeated exposure

Not classified due to lack of data.

Product:

Remarks : No data available

Repeated dose toxicity

Product:

Remarks : No data available

Aspiration toxicity

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

Product:

No aspiration toxicity classification

Experience with human exposure

Product:

Inhalation	:	Remarks: None known.
Skin contact	:	Remarks: None known.
Eye contact	:	Remarks: None known.
Ingestion	:	Remarks: Harmful if swallowed.

Further information

Product:

Remarks : None known.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 31.7 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h EC10 (Lemna gibba (gibbous duckweed)): 0.113 mg/l Exposure time: 72 h

Components:

Chlormequat chloride:

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Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia (water flea)): 19.2 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	: ErC50 (Lemna gibba (gibbous duckweed)): 28 mg/l Exposure time: 7 d ErC10 (Lemna gibba (gibbous duckweed)): 0.6 mg/l Exposure time: 7 d NOEC (Lemna gibba (gibbous duckweed)): 0.1 mg/l
Toxicity to fish (Chronic toxicity)	: NOEC (Oncorhynchus mykiss (rainbow trout)): 43.1 mg/l Exposure time: 21 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC (Daphnia magna (Water flea)): 2.4 mg/l Exposure time: 21 d
Toxicity to microorganisms	: IC50 (Bacteria): 43 mg/l Exposure time: 3 h

Persistence and degradability

Product:

Biodegradability	: Biodegradation: 50 % Exposure time: 26 - 34 d
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Components:

Chlormequat chloride:

Biodegradability	: Result: Readily biodegradable.
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Bioaccumulative potential

Product:

Bioaccumulation	: Remarks: Bioaccumulation is unlikely.
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Mobility in soil

Product:

Stability in soil	: Remarks: Not expected to adsorb on soil.
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Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	: Dispose of in accordance with local regulations.
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SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

TDG

Not regulated as a dangerous good

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

The components of this product are reported in the following inventories:

TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory
DSL	:	All components of this product are on the Canadian DSL
KECI	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory

Canadian lists

No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

CA AB OEL	:	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	:	Canada. British Columbia OEL
CA QC OEL	:	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for air-borne contaminants
CA AB OEL / TWA	:	8-hour Occupational exposure limit
CA BC OEL / TWA	:	8-hour time weighted average
CA QC OEL / TWA EV	:	Time-weighted average exposure value

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AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Revision Date : 03/27/2025
Date format : mm/dd/yyyy

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