

# SAFETY DATA SHEET



Revision date 10-Jun-2021

Revision Number 1

## 1. Identification

### Product identifier

Product Name Comando M

### Other means of identification

Product Code(s) 42750-91

UN/ID no. NA1993

Synonyms None

Registration Number(s) 42750-91

### Recommended use of the chemical and restrictions on use

Recommended use Herbicide

Restrictions on use Follow label instructions

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

#### Company Address

ALBAUGH LLC  
1525 NE 36th St,  
Ankeny, IA 50211

#### Emergency telephone number

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call  
CHEMTREC Day or Night

- Within USA and Canada: 1-800-424-9300
- Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not the same as the FIFRA label. Certain sections of this SDS are superseded by federal law governed by US EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

## 2. Hazard(s) identification

### Classification

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Serious eye damage/eye irritation	Category 2A
Germ cell mutagenicity	Category 1B
Aspiration hazard	Category 1
Flammable liquids	Category 3

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

#### Danger

#### Hazard statements

Harmful if swallowed  
 Harmful if inhaled  
 Causes serious eye irritation  
 May cause genetic defects  
 May be fatal if swallowed and enters airways  
 Flammable liquid and vapor



**Appearance** No data available

**Physical state** Liquid

**Odor** sweet

#### **Precautionary Statements - Prevention**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
 Keep container tightly closed  
 Ground/bond container and receiving equipment  
 Use explosion-proof electrical/ ventilating / lighting/ .? / equipment  
 Use only non-sparking tools  
 Take precautionary measures against static discharge

#### **Precautionary Statements - Response**

IF exposed or concerned: Get medical advice/attention  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 IF SWALLOWED: Immediately call a POISON CENTER or doctor  
 Do NOT induce vomiting  
 Rinse mouth  
 In case of fire: Use CO2, dry chemical, or foam to extinguish

#### **Precautionary Statements - Storage**

Store locked up  
 Store in a well-ventilated place. Keep cool

#### **Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

#### **Unknown acute toxicity**

- 11 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 11 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

### Other information

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

### 3. Composition/information on ingredients

#### Substance

Not applicable.

#### Mixture

Chemical name	CAS No	Weight-%	Active Ingredient
MCPA Ethylhexyl Ester	29450-45-1	42.10-44.70	X
Cyclohexanone	108-94-1	18.91-20.89	
Solvent naphtha, petroleum, light arom	Trade secret	18.52-20.46	
Clopyralid	1702-17-6	4.75-5.25	X
Other Ingredients	PROPRIETARY	>11.0	

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

### 4. First-aid measures

#### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Inhalation</b>	Aspiration into lungs can produce severe lung damage. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Get immediate medical advice/attention. Delayed pulmonary edema may occur.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Get immediate medical advice/attention.
<b>Self-protection of the first aider</b>	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists.

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

<b>Symptoms</b>	Difficulty in breathing. Coughing and/ or wheezing. Dizziness. May cause redness and tearing of the eyes. Burning sensation.
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#### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Because of the danger of aspiration, emesis or gastric lavage should not be employed
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unless the risk is justified by the presence of additional toxic substances.

## 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b> <b>Large Fire</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam. CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
<b>Specific hazards arising from the chemical</b>	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	None.
<b>Sensitivity to static discharge</b>	Yes.
<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Avoid breathing vapors or mists.
<b>Other information</b>	Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

### Methods and material for containment and cleaning up

<b>Methods for containment</b>	Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
<b>Methods for cleaning up</b>	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

## 7. Handling and storage

### Precautions for safe handling

<b>Advice on safe handling</b>	Use personal protection equipment. Avoid breathing vapors or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid
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contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. In case of insufficient ventilation, wear suitable respiratory equipment.

### **Conditions for safe storage, including any incompatibilities**

#### **Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep out of the reach of children. Store locked up. Store away from other materials.

## **8. Exposure controls/personal protection**

### **Control parameters**

#### **Exposure Limits**

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Cyclohexanone 108-94-1	STEL: 50 ppm TWA: 20 ppm S*	TWA: 50 ppm TWA: 200 mg/m <sup>3</sup> (vacated) TWA: 25 ppm (vacated) TWA: 100 mg/m <sup>3</sup> (vacated) S*	IDLH: 700 ppm TWA: 25 ppm TWA: 100 mg/m <sup>3</sup>

#### **Biological occupational exposure limits**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

### **Appropriate engineering controls**

#### **Engineering controls**

Showers  
Eyewash stations  
Ventilation systems.

### **Individual protection measures, such as personal protective equipment**

#### **Eye/face protection**

Tight sealing safety goggles.

#### **Hand protection**

Wear suitable gloves. Impervious gloves.

#### **Skin and body protection**

Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

#### **Respiratory protection**

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

#### **General hygiene considerations**

Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

Physical state	Liquid
Appearance	No data available
Color	Amber
Odor	sweet
Odor threshold	No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	4.0 5.0	
Melting point / freezing point	No data available	
Boiling point / boiling range	No data available	
Flash point	54	
Evaporation rate	No data available	
Flammability (solid, gas)	No data available	
Flammability Limit in Air		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	1.33 mPa (pure, 24°C) (Clopyralid) 2.3x10 <sup>-2</sup> mPa (20°C), 4x10 <sup>-1</sup> mPa (32°C), 4 mPa (45°C) (MCPA Acid)	
Vapor density	No data available	
Relative density	No data available	
Water solubility	No data available	
Solubility(ies)	Emulsifies	
Partition coefficient	log Pow = -1.81 (pH5), -2.63 (pH7), -2.55 (pH9), 1.07 (unionized, 25°C) (Clopyralid) 2.75 (pH1), 0.59 (pH5), -0.71 (pH7) (25°C) (MCPA Acid)	
Autoignition temperature	No data available	
Decomposition temperature		
Kinematic viscosity	8.9 cSt @ 20C	
Dynamic viscosity	No data available	
<u>Other information</u>		
Explosive properties	No data available	
Oxidizing properties	No data available	
Softening point	No data available	
Molecular weight	No data available	
VOC Content (%)	No data available	
Liquid Density	1.00-1.02*	
Bulk density	No data available	

\*Listed density is an approximate value and does not necessarily represent that of a specific batch

## 10. Stability and reactivity

Reactivity	No data available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Heat, flames and sparks. Excessive heat.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	None known based on information supplied.

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause irritation of respiratory tract. Harmful by inhalation. (based on components).
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. May cause irritation. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
<b>Skin contact</b>	Repeated exposure may cause skin dryness or cracking. Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. (based on components).

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Symptoms</b>	Difficulty in breathing. Coughing and/ or wheezing. Dizziness. May cause redness and tearing of the eyes.
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### Acute toxicity

#### Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

<b>ATEmix (oral)</b>	1,799.90 mg/kg
<b>ATEmix (inhalation-dust/mist)</b>	2.07 mg/l

#### Unknown acute toxicity

- 11 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 11 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
MCPA Ethylhexyl Ester 29450-45-1	= 1300 mg/kg ( Rat )	-	-
Cyclohexanone 108-94-1	= 1544 mg/kg ( Rat )	= 947 mg/kg ( Rabbit )	> 6.2 mg/L ( Rat ) 4 h
Solvent naphtha, petroleum, light arom	= 8400 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	= 3400 ppm ( Rat ) 4 h
Clopyralid 1702-17-6	= 2675 mg/kg ( Rat ) = 4300 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit ) > 2 g/kg ( Rabbit )	-

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Skin corrosion/irritation</b>	May cause skin irritation.
<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Causes serious eye irritation.

**Respiratory or skin sensitization** Did not cause sensitization on laboratory animals.\*\*\*

**Germ cell mutagenicity** Contains a known or suspected mutagen. Classification based on data available for ingredients. May cause genetic defects.

**Carcinogenicity** No data available.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Cyclohexanone 108-94-1	-	Group 3	-	-

#### Legend

**IARC (International Agency for Research on Cancer)**

Group 3 - Not Classifiable as to Carcinogenicity in Humans

**Reproductive toxicity** No data available.

**STOT - single exposure** No data available.

**STOT - repeated exposure** No data available.

**Target organ effects** liver, kidney, Respiratory system, Eyes, Skin, Central nervous system.

**Aspiration hazard** May be fatal if swallowed and enters airways.

**Other adverse effects** No data available.

**Interactive effects** No data available.

## 12. Ecological information

**Ecotoxicity** Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
MCPA Ethylhexyl Ester 29450-45-1	EC50: =0.46mg/L (72h, Pseudokirchneriella subcapitata) EC50: =0.43mg/L (96h, Pseudokirchneriella subcapitata)	LC50: 3.2 - 4.6mg/L (96h, Lepomis macrochirus) LC50: =3.2mg/L (96h, Oncorhynchus mykiss) LC50: >0.55mg/L (96h, Lepomis macrochirus)	-	EC50: =0.29mg/L (48h, Daphnia magna)
Cyclohexanone 108-94-1	-	LC50: 481 - 578mg/L (96h, Pimephales promelas) LC50: =8.9mg/L (96h, Pimephales promelas)	-	-
Solvent naphtha, petroleum, light arom	-	LC50: =9.22mg/L (96h, Oncorhynchus mykiss)	-	EC50: =6.14mg/L (48h, Daphnia magna)

**Persistence and degradability** No data available.

**Bioaccumulation** There is no data for this product.

#### Component Information

Chemical name	Partition coefficient
Cyclohexanone 108-94-1	0.86

**Other adverse effects** No data available.



### 13. Disposal considerations

#### Waste treatment methods

<b>Waste from residues/unused products</b>	Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
<b>Contaminated packaging</b>	Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.
<b>US EPA Waste Number</b>	U057

### 14. Transport information

#### DOT

<b>Description</b>	Containers $\leq$ 119 gallons	Not regulated by DOT
	Containers > 119 gallons	NA1993, Combustible Liquid, N.O.S., (aromatic solvent, cyclohexanone), PG III, RQ (cyclohexanone)

### 15. Regulatory information

#### U.S. EPA Label Information

**EPA Pesticide Registration Number** 42750-91

**EPA Pesticide Label** Caution. Causes Moderate eye Irritation· Harmful If Swallowed, Inhaled, or Absorbed Through Skin

#### International Inventories

<b>TSCA</b>	Does not comply
<b>DSL/NDSL</b>	Does not comply
<b>EINECS/ELINCS</b>	Does not comply
<b>ENCS</b>	Does not comply
<b>IECSC</b>	Does not comply
<b>KECL</b>	Does not comply
<b>PICCS</b>	Does not comply
<b>AICS</b>	Does not comply

#### **Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances

#### US Federal Regulations

##### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Cyclohexanone 108-94-1	5000 lb	-

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Cyclohexanone 108-94-1	X	-	X

**16. Other information**

<b>NFPA</b>	<b>Health hazards</b> 3	<b>Flammability</b> 2	<b>Instability</b> 0	<b>Physical and chemical properties</b> -
<b>HMIS</b>	<b>Health hazards</b> 3 *	<b>Flammability</b> 2	<b>Physical hazards</b> 0	<b>Personal protection</b> X
<i>Chronic Hazard Star Legend</i>	<i>* = Chronic Health Hazard</i>			

**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

**Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Food Safety Authority (EFSA)  
 EPA (Environmental Protection Agency)  
 Acute Exposure Guideline Level(s) (AEGL(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 Japan GHS Classification  
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)

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National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
World Health Organization

**Revision date** 10-Jun-2021  
**Revision Note** No data available.

**Disclaimer**

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**End of Safety Data Sheet**