Product Name: **Refine® M Herbicide**
Specification ID#: **50002068**

Refine® M Herbicide is a combination package of two (2) individual products. Attached are the component product SDS which make up Refine® M Herbicide:

Refine® SG Herbicide	PCP # **28285** SDS Date: **12/09/2022** Specification ID#: **50000040**
MCPA Ester 600 Liquid	PCP # **27803** SDS Date: **11/03/2023** Specification ID#: **50002724**

Please read the SDS in order to have a complete understanding of all the risks associated with each product before use.

Manufacturer/Distributor:
FMC of Canada Limited
6755 Mississauga Road, Suite 204
Mississauga, ON L5N 7Y2
Canada

Telephone Numbers:
Product Information: 1-833-362-7722
Medical Emergency: 1-800-331-3148 (USA & Canada)
Preparation

Date: 03/18/2025

SAFETY DATA SHEET

REFINE® SG HERBICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.1	12/09/2022	50000040	Date of first issue: 03/01/2018

SECTION 1. IDENTIFICATION

Product identifier

Product name REFINE® SG HERBICIDE

Other means of identification

Product code 50000040

Product Registration Number PCP #28285

Recommended use of the chemical and restrictions on use

Recommended use Can be used as herbicide only.

Restrictions on use Use as recommended by the label.

Details of the supplier of the safety data sheet

Manufacturer

FMC of Canada Ltd
6755 Mississauga Road, Suite 204
Mississauga, ON L5N 7Y2
Canada
Phone (AgHotline): 1-833-FMC-PPAC (1-833-362-7722),
Web: https://ag.fmc.com/ca/en
SDS-Info@fmc.com

Supplier Address

FMC of Canada Limited
6755 Mississauga Road, Suite 204
Mississauga, ON L5N 7Y2
Canada

Emergency telephone

For leak, fire, spill or accident emergencies, call:
1 800 / 424-9300 (CHEMTREC - U.S.A.)
1 703 / 741-5970 (CHEMTREC - International)
1 703 / 527-3887 (CHEMTREC - Alternate)

Medical emergency:
U.S.A. & Canada: +1 800 / 331-3148
All other countries: +1 651 / 632-6793 (Collect)

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Specific target organ toxicity - repeated exposure : Category 2 (Thyroid, Nervous system)

GHS label elements

Hazard pictograms :

Signal Word : Warning

Hazard Statements : H373 May cause damage to organs (Thyroid, Nervous system) through prolonged or repeated exposure.

Precautionary Statements :

Prevention:

P260 Do not breathe dust.

Response:

P314 Get medical advice/ attention if you feel unwell.

Disposal:

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

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Tribenuron-methyl	tribenuron-methyl (ISO)	101200-48-0	16.67
thifensulfuron-methyl (ISO)	thifensulfuron-methyl (ISO)	79277-27-3	33.33

SECTION 4. FIRST AID MEASURES

General advice : Remove victim from exposure and then have him lie down in the recovery position.
Call a physician immediately.
Show this safety data sheet to the doctor in attendance.
Keep at rest.
Keep warm and in a quiet place.
Do not leave the victim unattended.

If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : If on clothes, remove clothes.
In case of skin contact

		Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician.
In case of eye contact	:	Rinse immediately with plenty of water for at least 15 minutes. Remove contact lenses. If eye irritation persists, consult a specialist.
If swallowed	:	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	May cause damage to organs through prolonged or repeated exposure.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Dry chemical, CO2, water spray or regular foam.
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Thermal decomposition can lead to release of irritating gases and vapors. Carbon oxides Nitrogen oxides (NOx) Sulfur oxides
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up	:	Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed.
Advice on safe handling	:	Avoid formation of respirable particles. Do not breathe vapors/dust. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations. Keep only in original packaging.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological safety standards.
Further information on storage stability	:	No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

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.
Filter type	:	Particulates type
Hand protection Material	:	Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.
Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye protection	:	Eye wash bottle with pure water Tightly fitting safety goggles
Skin and body protection	:	Dust impervious protective suit Choose body protection according to the amount and con-

centration of the dangerous substance at the work place. 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.

Impervious clothing

Protective measures : Plan first aid action before beginning work with this product.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Remove and wash contaminated clothing and gloves, including the inside, before re-use.
Contaminated work clothing should not be allowed out of the workplace.
Wash hands and face before breaks and immediately after handling the product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	granular
Color	:	light brown
Odor	:	slight, acidic
Odor Threshold	:	Not applicable No data available
pH	:	ca. 9.2 - 9.8 (20 °C) Concentration: 10 g/l
Melting point/range	:	Not available for this mixture.
Boiling point/boiling range	:	Decomposition
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	Does not sustain combustion.
Upper explosion limit / Upper	:	Not available for this mixture.

flammability limit		
Lower explosion limit / Lower flammability limit	:	Not available for this mixture.
Vapor pressure	:	Not available for this mixture.
Relative vapor density	:	Not available for this mixture.
Density	:	No data available
Bulk density	:	692 kg/m3packed
Solubility(ies)		
Water solubility	:	soluble
Partition coefficient: n-octanol/water	:	Not available for this mixture.
Autoignition temperature	:	385 °C
Decomposition temperature	:	Not available for this mixture.
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The product is not oxidizing.
Particle size	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed. Dust may form explosive mixture in air.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Avoid strong acids, bases, and oxidizers.
Hazardous decomposition products	:	Stable under recommended storage conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Method: Fixed Dose Method Remarks: (Data on the product itself)
Acute inhalation toxicity	:	Acute toxicity estimate: > 10 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg Method: OECD Test Guideline 402 Remarks: (Data on the product itself) Information source: Internal study report

Skin corrosion/irritation

Not classified based on available information.

Product:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
Remarks	:	(Data on the product itself)

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405
Remarks	:	(Data on the product itself)

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Test Type	:	Maximization Test
Species	:	Guinea pig
Assessment	:	Not a skin sensitizer.

Method	:	US EPA Test Guideline OPPTS 870.2600
Result	:	Animal test did not cause sensitization by skin contact.
Remarks	:	(Data on the product itself)

Germ cell mutagenicity

Not classified based on available information.

Components:

Tribenuron-methyl:

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

thifensulfuron-methyl (ISO):

Genotoxicity in vitro	:	Test system: Chinese hamster ovary cells Method: OECD Test Guideline 476 Result: negative Remarks: In vitro tests did not show mutagenic effects
Germ cell mutagenicity - Assessment	:	Weight of evidence does not support classification as a germ cell mutagen.

Carcinogenicity

Not classified based on available information.

Components:

Tribenuron-methyl:

Remarks	:	No significant adverse effects were reported
Carcinogenicity - Assessment	:	Did not show carcinogenic effects in animal experiments.

thifensulfuron-methyl (ISO):

Carcinogenicity - Assessment	:	Weight of evidence does not support classification as a carcinogen

Reproductive toxicity

Not classified based on available information.

Components:

Tribenuron-methyl:

Reproductive toxicity - Assessment	:	No toxicity to reproduction Animal testing did not show any effects on fetal development., Did not show teratogenic effects in animal experiments.

thifensulfuron-methyl (ISO):

Reproductive toxicity - Assessment	:	Did not show teratogenic effects in animal experiments.

STOT-single exposure

Not classified based on available information.

Components:

Tribenuron-methyl:

Assessment	:	The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT-repeated exposure

May cause damage to organs (Thyroid, Nervous system) through prolonged or repeated exposure.

Product:

Remarks	:	Refer to acute toxicity and/or repeated dose toxicity data for more information on target organs if applicable.

Repeated dose toxicity

Components:

Tribenuron-methyl:

Species	:	Rabbit
LOAEL	:	80 mg/kg
Target Organs	:	Thyroid, Nervous system
Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.
Remarks	:	Increased mortality or reduced survival

thifensulfuron-methyl (ISO):

Species	:	Rat
LOAEL	:	ca. 200 mg/kg
Exposure time	:	90 d
Target Organs	:	No specific target organs noted
Symptoms	:	Reduced body weight

Aspiration toxicity

Not classified based on available information.

Components:

Tribenuron-methyl:

The substance does not have properties associated with aspiration hazard potential.

Further information

Product:

Remarks	:	No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 130 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: (Data on the product itself)
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 130 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: (Data on the product itself)
Toxicity to algae/aquatic plants	:	EC50 (Lemna gibba (duckweed)): 0.0029 mg/l End point: Frond Exposure time: 14 d Method: US EPA Test Guideline OPP 122-2 & 123-2 Remarks: (Data on the product itself) Information source: Internal study report ErC50 (Pseudokirchneriella subcapitata (microalgae)): > 0.16 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: (Data on the product itself) Information source: Internal study report
Toxicity to soil dwelling organisms	:	LC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg Exposure time: 14 d Method: OECD Test Guideline 207 GLP: yes Remarks: Information source: Internal study report
Toxicity to terrestrial organisms	:	LD50 (Apis mellifera (bees)): > 112.2 µg/bee Exposure time: 48 h End point: Acute oral toxicity Method: OECD Test Guideline 213 GLP: yes Remarks: Information source: Internal study report LD50 (Apis mellifera (bees)): > 100 µg/bee Exposure time: 48 h End point: Acute contact toxicity Method: OECD Test Guideline 214 GLP: yes Remarks: Information source: Internal study report

Components:

Tribenuron-methyl:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 738 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Crustaceans): > 320 mg/l Exposure time: 48 h EC50 (Daphnia magna (Water flea)): > 894 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 0.0208 mg/l Exposure time: 120 h EC50 (Lemna gibba (duckweed)): 0.00424 mg/l Exposure time: 14 d
Toxicity to fish (Chronic toxicity)	:	NOEC (Cyprinodon variegatus (sheepshead minnow)): 114 mg/l Exposure time: 21 d Method: OECD Test Guideline 211 NOEC (Oncorhynchus mykiss (rainbow trout)): 560 mg/l Exposure time: 21 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 41 mg/l Exposure time: 21 d
Toxicity to soil dwelling organisms	:	NOEC (Eisenia fetida (earthworms)): 3.2 mg/kg Exposure time: 56 d
Toxicity to terrestrial organisms	:	LD50 (Colinus virginianus (Bobwhite quail)): > 2,250 mg/kg LD50 (Colinus virginianus (Bobwhite quail)): > 5,620 ppm Remarks: Dietary LD50 (Anas platyrhynchos (Mallard duck)): > 5,620 ppm Remarks: Dietary LD50 (Apis mellifera (bees)): > 98.4 µg/bee Exposure time: 48 h End point: Acute contact toxicity LD50 (Apis mellifera (bees)): > 9.1 µg/bee Exposure time: 48 h End point: Acute oral toxicity

Ecotoxicology Assessment

Acute aquatic toxicity	:	Very toxic to aquatic life.

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

thifensulfuron-methyl (ISO):

Toxicity to fish	:	LC50 (Salmo gairdneri): 100 mg/l Exposure time: 96 h LC50 (Oncorhynchus mykiss (rainbow trout)): > 250 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 470 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	IC50 (green algae): 0.0159 mg/l Exposure time: 72 h ErC50 (Raphidocelis subcapitata (freshwater green alga)): 1.4 mg/l Exposure time: 72 h EC50 (Lemna minor (duckweed)): 1.3 µg/l
Toxicity to fish (Chronic toxicity)	:	NOEC (Salmo gairdneri): 250 mg/l Exposure time: 28 d NOEC (Oncorhynchus mykiss (rainbow trout)): 10.6 mg/l Exposure time: 21 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 100 mg/l Exposure time: 21 d
Toxicity to soil dwelling organisms	:	LC50 (Eisenia fetida (earthworms)): > 2,000 mg/kg
Toxicity to terrestrial organisms	:	LD50 (Anas platyrhynchos (Mallard duck)): > 2,510 mg/kg LD50 (Anas platyrhynchos (Mallard duck)): > 5,620 ppm Remarks: Dietary LD50 (Colinus virginianus (Bobwhite quail)): > 5,620 ppm LD50 (Apis mellifera (bees)): > 7.1 µg/bee End point: Acute oral toxicity LD50 (Apis mellifera (bees)): > 100 µg/bee End point: Acute contact toxicity

Ecotoxicology Assessment

Acute aquatic toxicity	:	Very toxic to aquatic life.
Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects.

Persistence and degradability

Product:

Biodegradability : Result: Not readily biodegradable.
Remarks: Estimation based on data obtained on active ingredient.

Components:

Tribenuron-methyl:

Biodegradability : Biodegradation: 29.4 %
Exposure time: 28 d

thifensulfuron-methyl (ISO):

Biodegradability : Remarks: Not readily biodegradable.
Primary degradation half-lives vary with circumstances, from a few days to a few weeks in aerobic water and soil.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Does not bioaccumulate.
Estimation based on data obtained on active ingredient.

Components:

Tribenuron-methyl:

Bioaccumulation : Bioconcentration factor (BCF): < 1
Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: -0.38

thifensulfuron-methyl (ISO):

Bioaccumulation : Bioconcentration factor (BCF): 1
Remarks: Does not bioaccumulate.

Mobility in soil

Product:

Distribution among environmental compartments : Remarks: Under normal conditions the active ingredient/s is/are of high to intermediate mobility in soil. There is a potential for leaching to groundwater.

Components:

Tribenuron-methyl:

Distribution among environmental compartments : Remarks: Under normal conditions the active ingredient/s is/are of high to intermediate mobility in soil. There is a potential for leaching to groundwater.

thifensulfuron-methyl (ISO):

Distribution among environmental compartments	:	Koc: 28.3, log Koc: 1.45 Remarks: Highly mobile in soils
Stability in soil	:	

Other adverse effects

Product:

Additional ecological information	:	Environmental hazards Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company. Dispose of in accordance with the European Directives on waste and hazardous waste.
Contaminated packaging	:	Empty remaining contents. Do not re-use empty containers. Packaging that is not properly emptied must be disposed of as the unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3077
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thifensulfuron-methyl, Tribenuron-methyl)
Class	:	9
Subsidiary risk	:	ENVIRONM.
Packing group	:	III
Labels	:	9 (ENVIRONM.)

IATA-DGR

UN/ID No.	:	UN 3077
Proper shipping name	:	Environmentally hazardous substance, solid, n.o.s. (Thifensulfuron-methyl, Tribenuron-methyl)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	956
Packing instruction (passenger aircraft)	:	956
Environmentally hazardous	:	yes

IMDG-Code

UN number	:	UN 3077
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thifensulfuron-methyl, Tribenuron-methyl)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes

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

Not applicable for product as supplied.

Domestic regulation

TDG

Not regulated as a dangerous good

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

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

TCSI	:	Not in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on TSCA inventory.
AIIC	:	Not in compliance with the inventory
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL.
ENCS	:	Not in compliance with the inventory

ISHL	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	Not in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not 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

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

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guid-

ance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Disclaimer

FMC Corporation believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. You can contact FMC Corporation to insure that this document is the most current available from FMC Corporation. No warranty of fitness for any particular purpose, warranty of merchantability or any other warranty, expressed or implied, is made concerning the information provided herein. The information provided herein relates only to the specified product designated and may not be applicable where such product is used in combination with any other materials or in any process. The user is responsible for determining whether the product is fit for a particular purpose and suitable for the user's conditions and methods of use. Since the conditions and methods of use are beyond the control of FMC Corporation, FMC Corporation expressly disclaims any and all liability as to any results obtained or arising from any use of the products or reliance on such information.

CA / EN

Prepared by:

FMC Corporation

FMC Logo - Trademark of FMC Corporation

End of Material Safety Data Sheet

SAFETY DATA SHEET
according to the Hazardous Products Regulations

MCPA Ester 600

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	11/03/2023	50002724	Date of first issue: 11/03/2023

SECTION 1. IDENTIFICATION

Product identifier

Product name MCPA Ester 600

Other means of identification

Product code 50002724

Product Registration Number 32311; 34073

Recommended use of the chemical and restrictions on use

Recommended use Can be used as herbicide only.

Restrictions on use Use as recommended by the label.

Details of the supplier of the safety data sheet

Manufacturer

FMC of Canada Ltd
6755 Mississauga Road, Suite 204
Mississauga, ON L5N 7Y2
Canada
Phone (AgHotline): 1-833-FMC-PPAC (1-833-362-7722),
Web: https://ag.fmc.com/ca/en
SDS-Info@fmc.com

Supplier Address

FMC of Canada Limited
6755 Mississauga Road, Suite 204
Mississauga, ON L5N 7Y2
Canada

Emergency telephone

For leak, fire, spill or accident emergencies, call:
1 800 / 424-9300 (CHEMTREC - U.S.A.)
1 703 / 741-5970 (CHEMTREC - International)
1 703 / 527-3887 (CHEMTREC - Alternate)

Medical emergency:
U.S.A. & Canada: +1 800 / 331-3148
All other countries: +1 651 / 632-6793 (Collect)

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Serious eye damage/eye irritation	:	Category 2A
Skin sensitization	:	Category 1

GHS label elements

Hazard pictograms :

Signal Word	:	Warning
Hazard Statements	:	H302 Harmful if swallowed. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H332 Harmful if inhaled.

Precautionary Statements :

Prevention:

P261 Avoid breathing mist or vapors.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER or doctor/ physician if you feel unwell.
P331 Do NOT induce vomiting.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

Disposal:

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

Other hazards

Very toxic to aquatic life.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
salts and esters of MCPA	salts and esters of MCPA	29450-45-1	>= 60 - < 94
Distillates (petroleum), hydro- treated light; Kerosine — unspecified	Distillates (petroleum), hydro-treated light; Kerosine — unspecified	64742-47-8	>= 1 - < 3

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Move to fresh air.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : If on skin, rinse well with water.

In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Do NOT induce vomiting.
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed : Harmful if swallowed.
May cause an allergic skin reaction.

Notes to physician : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Dry chemical, CO2, water spray or regular foam.

Unsuitable extinguishing media : High volume water jet

Specific hazards during fire fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Carbon oxides Chlorinated compounds Hydrogen chloride Fire may produce irritating, corrosive and/or toxic gases.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Never return spills in original containers for re-use. Mark the contaminated area with signs and prevent access to unauthorized personnel. Only qualified personnel equipped with suitable protective equipment may intervene. For disposal considerations see section 13.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological safety standards.
Materials to avoid	:	Do not store near acids.
Further information on storage stability	:	No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Distillates (petroleum), hydrotreated light; Kerosine — unspecified	64742-47-8	TWA	200 mg/m3 (total hydrocarbon vapor)	CA BC OEL
		TWA	200 mg/m3 (total hydrocarbon vapor)	CA AB OEL
		TWA (Mist)	5 mg/m3	CA AB OEL
		STEL (Mist)	10 mg/m3	CA AB OEL
		TWAEV (Mist)	5 mg/m3	CA QC OEL
		STEV (Mist)	10 mg/m3	CA QC OEL
		TWA	525 mg/m3	CA ON OEL
		TWA	200 mg/m3 (total hydrocarbon vapor)	ACGIH

Personal protective equipment

Respiratory protection	:	No personal respiratory protective equipment normally required.
Hand protection		
Material	:	Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.
Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye protection	:	Eye wash bottle with pure water Tightly fitting safety goggles
Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Protective measures	:	Plan first aid action before beginning work with this product. Always have on hand a first-aid kit, together with proper instructions. Ensure that eye flushing systems and safety showers are located close to the working place. Wear suitable protective equipment.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Color	:	clear, amber
Odor	:	aromatic, phenol-like
Odor Threshold	:	No data available
pH	:	3.5 - 4.5 Concentration: 1 % (1% solution in water)
Melting point/freezing point	:	< -25 °C
Initial boiling point and boiling range	:	Decomposition at boiling point.
Flash point	:	> 100 °C
Evaporation rate	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	0.0057 mmHg (25 °C)
Relative vapor density	:	No data available
Relative density	:	No data available

Density	:	1.0 - 1.08 g/cm3
Bulk density	:	No data available
Solubility(ies)		
Water solubility	:	emulsifiable
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	58.4 mm2/s (20 °C)
Explosive properties	:	Not explosive
Oxidizing properties	:	Non-oxidizing

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	Avoid extreme temperatures. Heat, flames and sparks.
Incompatible materials	:	Avoid strong acids, bases, and oxidizers.
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity	:	Acute toxicity estimate: 514.49 mg/kg Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Components:

salts and esters of MCPA:

Acute oral toxicity : LD50 (Rat, female): > 300 - < 2,000 mg/kg
Method: OECD Test Guideline 420

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.05 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OPPTS 870.1300
Remarks: no mortality

Acute dermal toxicity : LD50 (Rat, male): > 2,000 mg/kg
Method: OECD Test Guideline 402

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Acute oral toxicity : LD50 (Rat, male and female): > 15,000 mg/kg
Method: OECD Test Guideline 423
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC0 (Rat, male and female): > 5.28 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: OECD Test Guideline 403
Remarks: Based on data from similar materials
no mortality

Acute dermal toxicity : LD50 (Rabbit, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Based on data from similar materials

Skin corrosion/irritation

Not classified due to lack of data.

Product:

Remarks : May cause skin irritation and/or dermatitis.

Components:

salts and esters of MCPA:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Assessment : Repeated exposure may cause skin dryness or cracking.

Serious eye damage/eye irritation

Not classified due to lack of data.

Product:

Remarks : Vapors may cause irritation to the eyes, respiratory system and the skin.

Components:

salts and esters of MCPA:

Species : Rabbit
Result : No eye irritation
Method : OECD Test Guideline 405

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Species : Rabbit
Result : No eye irritation
Method : OECD Test Guideline 405

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified due to lack of data.

Product:

Routes of exposure : Skin contact
Assessment : May cause sensitization by skin contact.
Result : May cause sensitization by skin contact.
Remarks : May cause sensitization of susceptible persons.

Components:

salts and esters of MCPA:

Test Type : Maximization Test
Species : Guinea pig
Method : OECD Test Guideline 406
Result : May cause sensitization by skin contact.

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Test Type : Maximization Test
Routes of exposure : Intradermal
Species : Guinea pig
Result : Does not cause skin sensitization.
Remarks : Based on data from similar materials

Germ cell mutagenicity

Not classified due to lack of data.

Components:

salts and esters of MCPA:

Genotoxicity in vitro	:	Test Type: reverse mutation assay Method: OECD Test Guideline 471 Result: negative
Genotoxicity in vivo	:	Test Type: chromosome aberration assay Species: Mouse (male) Application Route: Intraperitoneal injection Method: OECD Test Guideline 475 Result: negative

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Genotoxicity in vitro	:	Test Type: reverse mutation assay Method: OECD Test Guideline 471 Result: negative Remarks: Based on data from similar materials
Genotoxicity in vivo	:	Test Type: Micronucleus test Species: Mouse (male and female) Application Route: Intraperitoneal injection Result: negative Remarks: Based on data from similar materials

Carcinogenicity

Not classified due to lack of data.

Components:

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Species	:	Rat, male
Application Route	:	inhalation (vapor)
Exposure time	:	105 weeks
NOAEC	:	0.138 mg/l
Result	:	positive
Remarks	:	Based on data from similar materials
Carcinogenicity - Assessment	:	The observed tumors do not appear to be relevant for men.

Reproductive toxicity

Not classified due to lack of data.

Components:

salts and esters of MCPA:

Effects on fertility	:	Test Type: Two-generation study

Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 416
Result: negative

Effects on fetal development : Test Type: Pre-natal
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Effects on fertility : Test Type: Fertility
Species: Rat, male and female
Application Route: inhalation (vapor)
Duration of Single Treatment: 14 Weeks
General Toxicity Parent: NOAEC: 2.2 mg/l
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Oral
General Toxicity Maternal: NOAEL: 500 mg/kg body weight
Teratogenicity: NOAEL: 2,000 mg/kg body weight
Remarks: Developmental effects are a consequence of maternal toxicity.

STOT-single exposure

Not classified due to lack of data.

STOT-repeated exposure

Not classified due to lack of data.

Components:

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

salts and esters of MCPA:

Species : Dog, male and female
NOAEL : < 1 mg/kg
Application Route : Oral
Exposure time : 90 d
Method : OECD Test Guideline 409

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Species : Rat

NOAEL	:	>= 200 ppm
Application Route	:	inhalation (vapor)
Exposure time	:	13 weeks
Remarks	:	Based on data from similar materials

Aspiration toxicity

Not classified due to lack of data.

Components:

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Further information

Product:

Remarks	:	No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

salts and esters of MCPA:

Toxicity to fish	:	LC50 (Fish): > 1 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 1 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	NOEC (Pseudokirchneriella subcapitata (green algae)): 0.32 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Lemna sp.): 0.1 mg/l Exposure time: 168 h Method: OECD Test Guideline 221 ErC50 (Lemna sp.): 7.13 mg/l Exposure time: 168 h Method: OECD Test Guideline 221
Toxicity to fish (Chronic toxicity)	:	NOEC (Danio rerio (zebra fish)): >= 10 mg/l Exposure time: 30 d Method: OECD Test Guideline 210
Toxicity to daphnia and other	:	NOEC (Daphnia magna (Water flea)): > 100 mg/l

aquatic invertebrates (Chronic toxicity)		Exposure time: 21 d Method: OECD Test Guideline 211
Toxicity to microorganisms	:	NOEC (Anabaena flos-aquae (cyanobacterium)): 0.32 mg/l Exposure time: 72 h
Toxicity to soil dwelling organisms	:	LC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg Exposure time: 14 d Method: OECD Test Guideline 207

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Toxicity to fish	:	LL50 (Oncorhynchus mykiss (rainbow trout)): > 1,000 mg/l Exposure time: 96 h Test Type: semi-static test Remarks: water accommodated fractions (WAF)
Toxicity to daphnia and other aquatic invertebrates	:	LL50 (Daphnia magna (Water flea)): > 10,000 mg/l Exposure time: 48 h Test Type: static test Remarks: water accommodated fractions (WAF)
Toxicity to algae/aquatic plants	:	NOELR (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 EL50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	:	NOELR (Oncorhynchus mykiss (rainbow trout)): 0.173 mg/l Exposure time: 28 d Method: QSAR Remarks: No toxicity at the limit of solubility. water accommodated fractions (WAF)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOELR (Daphnia magna (Water flea)): 1.22 mg/l Exposure time: 21 d Method: QSAR Remarks: No toxicity at the limit of solubility. water accommodated fractions (WAF)
Toxicity to microorganisms	:	EL50 (Tetrahymena pyriformis): > 1,000 mg/l Exposure time: 48 h Method: QSAR

Persistence and degradability

Components:

salts and esters of MCPA:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 16 d
Method: OECD Test Guideline 302B

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Biodegradability : Concentration: 50 mg/l
Result: Readily biodegradable.
Biodegradation: 89.9 %
Exposure time: 28 d
Method: OECD Test Guideline 301

Bioaccumulative potential

Components:

salts and esters of MCPA:

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)
Bioconcentration factor (BCF): 0.4
Method: OECD Test Guideline 305

Partition coefficient: n-octanol/water : log Pow: >= 3.19 (20 °C)

Distillates (petroleum), hydro- treated light; Kerosine — unspecified:

Bioaccumulation : Bioconcentration factor (BCF): 144.3
Method: QSAR

Mobility in soil

Components:

salts and esters of MCPA:

Distribution among environmental compartments : Koc: 6172 ml/g, log Koc: 3.79
Remarks: Low mobility in soil.

Stability in soil :

Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (MCPA-ISOOCTYL TECHNICAL)
Class	:	9
Packing group	:	III
Labels	:	9
Environmentally hazardous	:	yes

IATA-DGR

UN/ID No.	:	UN 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (MCPA-ISOOCTYL TECHNICAL)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964
Environmentally hazardous	:	yes

IMDG-Code

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (MCPA-ISOOCTYL TECHNICAL)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes

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

Not applicable for product as supplied.

Domestic regulation

TDG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (MCPA-ISOOCTYL TECHNICAL)
Class	:	9
Packing group	:	III
Labels	:	9
ERG Code	:	171
Marine pollutant	:	yes(MCPA-ISOOCTYL TECHNICAL)

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

NPRI Components	:	Distillates (petroleum), hydro- treated light; Kerosine — unspecified

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

TCSI	:	Not in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on TSCA inventory.
AIIC	:	Not in compliance with the inventory
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL. salts and esters of MCPA INERT INGREDIENTS (NULL)
ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	Not in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not 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

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
CA AB OEL	:	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	:	Canada. British Columbia OEL
CA ON OEL	:	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
CA QC OEL	:	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
ACGIH / TWA	:	8-hour, time-weighted average
CA AB OEL / TWA	:	8-hour Occupational exposure limit
CA AB OEL / STEL	:	15-minute occupational exposure limit
CA BC OEL / TWA	:	8-hour time weighted average
CA ON OEL / TWA	:	Time-Weighted Average Limit (TWA)
CA QC OEL / TWAEV	:	Time-weighted average exposure value
CA QC OEL / STEV	:	Short-term exposure value

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

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CA / EN

Prepared by:

FMC Corporation

End of Material Safety Data Sheet