Material Safety Data Sheet
Dow AgroSciences Canada Inc.

Product Name: Tordon* 101 Herbicide **Issue Date:** 2013.03.27

Dow AgroSciences Canada Inc. encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. Product and Company Identification

Product Name
Tordon* 101 Herbicide

COMPANY IDENTIFICATION
Dow AgroSciences Canada Inc.
A Subsidiary of The Dow Chemical Company
Suite 2100, 450 1st Street SW
Calgary, AB T2P 5H1
Canada

For MSDS updates and Product Information: 800-667-3852

Prepared By: Prepared for use in Canada by EH&S, Hazard Communications.
Revision 2013.03.27

Customer Information Number: 800-667-3852
solutions@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 613-996-6666
Local Emergency Contact: 613-996-6666

2. Hazards Identification

Emergency Overview
Color: amber
Physical State: Liquid
Odor: Characteristic
Hazards of product:

WARNING! Combustible liquid and vapor. May cause allergic skin reaction. May cause eye irritation. May be harmful if inhaled. Vapor explosion hazard. Isolate area. Keep upwind of spill. Toxic fumes may be released in fire situations.

Potential Health Effects

Eye Contact: May cause moderate eye irritation. May cause slight corneal injury. Effects may be slow to heal.
Skin Contact: Brief contact is essentially nonirritating to skin. Prolonged contact may cause slight skin irritation with local redness. Repeated contact may cause slight skin irritation with local redness.
Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts.
Skin Sensitization: Has caused allergic skin reactions when tested in guinea pigs.
Inhalation: Prolonged excessive exposure to mist may cause adverse effects. Based on the available data, respiratory irritation was not observed.
Ingestion: Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.
Aspiration hazard: Based on physical properties, not likely to be an aspiration hazard.
Effects of Repeated Exposure: For the active ingredient(s): In animals, effects have been reported on the following organs: Kidney. Liver. Eye. Thyroid. Observations in animals include: Nausea and/or vomiting.
Birth Defects/Developmental Effects: For the active ingredient(s): 2,4-Dichlorophenoxyacetic acid, Triisopropanolamine salt Has caused birth defects in lab animals only at doses producing severe toxicity in the mother. For the minor component(s): Isopropanol has been toxic to the fetus in laboratory animals at doses toxic to the mother.
Reproductive Effects: For similar active ingredient(s). 2,4-Dichlorophenoxyacetic acid. In laboratory animals, excessive doses toxic to the parent animals caused decreased weight and survival of offspring.

3. Composition/information on ingredients

Component	CAS #	Amount W/W
2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt	18584-79-7	39.2 %
Picloram triisopropanolamine salt	6753-47-5	10.2 %
Isopropanol	67-63-0	5.0 %
Alkylphenol alkoxylate	69029-39-6	5.2 %
Triisopropanolamine	122-20-3	1.3 %
Balance	Not available	39.1 %

Amounts are presented as percentages by weight.

4. First-aid measures

Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.
Skin Contact: Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly.
Eye Contact: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice. Suitable emergency eye wash facility should be available in work area.

Ingestion: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), no additional symptoms and effects are anticipated.

Indication of immediate medical attention and special treatment needed

No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. Fire Fighting Measures

Suitable extinguishing media

Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Special hazards arising from the substance or mixture

Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Hydrogen chloride. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Eliminate ignition sources. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the “Accidental Release Measures” and the “Ecological Information” sections of this (M)SDS.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

See Section 9 for related Physical Properties

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to Section 7, Handling, for additional precautionary measures. No smoking in area. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Vapor explosion hazard. Keep out of sewers. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Small spills: Absorb with materials such as: Clay. Dirt. Sand. Sweep up. Collect in suitable and properly labeled containers. Large spills: Pump with explosion-proof equipment. If available, use foam to smother or suppress. Contact Dow AgroSciences for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

7. Handling and Storage

Handling

General Handling: Keep out of reach of children. Keep away from heat, sparks and flame. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation. No smoking, open flames or sources of ignition in handling and storage area. Electrically ground and bond all equipment. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Storage

Store in a dry place. Store in original container. Keep container tightly closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies. Minimize sources of ignition, such as static build-up, heat, spark or flame.

8. Exposure Controls / Personal Protection

Exposure Limits

Component	List	Type	Value
Isopropanol	CAD BC OEL	TWA	200 ppm
	CAD BC OEL	STEL	400 ppm
	CAD ON OEL	TWAEV	200 ppm
	CAD ON OEL	STEV	400 ppm
	ACGIH	TWA	200 ppm BEI
	ACGIH	STEL	400 ppm BEI
	OEL (QUE)	TWA	983 mg/m3 400 ppm
	OEL (QUE)	STEL	1,230 mg/m3 500 ppm
	CAD AB OEL	TWA	492 mg/m3 200 ppm
	CAD AB OEL	STEL	984 mg/m3 400 ppm
Alkylphenol alkoxylate	Dow IHG	TWA	2 mg/m3
Triisopropanolamine	Dow IHG	TWA	10 mg/m3

Consult local authorities for recommended exposure limits.
RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

Personal Protection

Eye/Face Protection: Use chemical goggles.
Skin Protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Respiratory Protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

Ingestion: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

Engineering Controls

Ventilation: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

9. Physical and Chemical Properties

Appearance	
Physical State	Liquid
Color	amber
Odor	Characteristic
Odor Threshold	No test data available
pH	7.0 (@ 10 %) *pH Electrode*
Melting Point	No test data available
Freezing Point	< -5 °C
Boiling Point (760 mmHg)	> 82 °C
Flash Point - Closed Cup	66 °C *Setaflash Closed Cup ASTMD3278*
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	No data available
Flammable Limits In Air	**Lower**: No test data available **Upper**: No test data available
Vapor Pressure	32 mmHg @ 20 °C Approx.
Vapor Density (air = 1)	No test data available
Specific Gravity (H2O = 1)	1.143
Solubility in water (by weight)	Miscible with water
Partition coefficient, n-octanol/water (log Pow)	No data available for this product. See Section 12 for individual component data.
Autoignition Temperature	No test data available
Decomposition Temperature	No test data available
Kinematic Viscosity	< 100 cSt @ 22.8 °C
Explosive properties	No
Oxidizing properties	No significant increase (>5C) in temperature. *EPA OPPTS 830.6314 (Oxidizing or Reducing Action)*
Liquid Density	1.15 g/ml @ 19.2 °C

10. Stability and Reactivity

Reactivity
No dangerous reaction known under conditions of normal use.
Chemical stability
Thermally stable at typical use temperatures.

Possibility of hazardous reactions
Polymerization will not occur.
Conditions to Avoid: Some components of this product can decompose at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

Incompatible Materials: Avoid contact with: Strong acids. Strong bases. Strong oxidizers.
Hazardous decomposition products
Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Hydrogen chloride. Nitrogen oxides.

11. Toxicological Information

Acute Toxicity
Ingestion
As product: LD50, rat, female 2,598 mg/kg
Dermal
As product: LD50, rabbit > 5,000 mg/kg
Inhalation
Maximum attainable concentration. LC50, 4 h, Aerosol, rat, male and female > 1.38 mg/l
Eye damage/eye irritation
May cause moderate eye irritation. May cause slight corneal injury. Effects may be slow to heal.
Skin corrosion/irritation
Brief contact is essentially nonirritating to skin. Prolonged contact may cause slight skin irritation with local redness. Repeated contact may cause slight skin irritation with local redness.
Sensitization
Skin
Has caused allergic skin reactions when tested in guinea pigs.
Respiratory
No relevant data found.
Repeated Dose Toxicity
For the active ingredient(s): In animals, effects have been reported on the following organs: Kidney. Liver. Eye. Thyroid. Observations in animals include: Nausea and/or vomiting.
Chronic Toxicity and Carcinogenicity
For similar active ingredient(s). Various animal cancer tests have shown no reliably positive association between 2,4-D exposure and cancer. Epidemiology studies on herbicide use have been both positive and negative with the majority being negative. For similar active ingredient(s). Picloram acid. Did not cause cancer in laboratory animals.
Developmental Toxicity
For the active ingredient(s): 2,4-Dichlorophenoxyacetic acid, Triisopropanolamine salt Has caused birth defects in lab animals only at doses producing severe toxicity in the mother. For the minor component(s): Isopropanol has been toxic to the fetus in laboratory animals at doses toxic to the mother.
Reproductive Toxicity
For similar active ingredient(s). 2,4-Dichlorophenoxyacetic acid. In laboratory animals, excessive doses toxic to the parent animals caused decreased weight and survival of offspring.
Genetic Toxicology
For the active ingredient(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

12. Ecological Information

Toxicity

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested). Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

Fish Acute & Prolonged Toxicity
LC50, tidewater silverside (Menidia beryllina), 96 h: 57.2 mg/l
Aquatic Invertebrate Acute Toxicity
EC50, eastern oyster (Crassostrea virginica), 48 h, shell growth inhibition: 10 - 18 mg/l
LC50, pink shrimp (Penaeus duorarum), 96 h: 306 mg/l
Aquatic Plant Toxicity
EbC50, Skeletonema costatum, biomass growth inhibition, 120 h: 22 mg/l
EC50, Pseudokirchneriella subcapitata (green algae), 120 h: 233.9 mg/l
ErC50, Lemna gibba, 14 d: 6.92 mg/l
Toxicity to Above Ground Organisms
dietary LC50, Colinus virginianus (Bobwhite quail): > 10000 mg/kg diet.
dietary LC50, Anas platyrhynchos (Mallard duck): > 10,000 ppm
contact LD50, Apis mellifera (bees): > 100 micrograms/bee

Persistence and Degradability

Data for Component: **2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt**

For similar active ingredient(s). 2,4-Dichlorophenoxyacetic acid. Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%).

Data for Component: **Picloram triisopropanolamine salt**

For similar active ingredient(s). Picloram. Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions. Biodegradation may occur under aerobic conditions (in the presence of oxygen). Surface photodegradation is expected with exposure to sunlight.

Data for Component: **Isopropanol**

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method	10 Day Window
95 %	21 d	OECD 301E Test	pass
53 %	5 d	Other guidelines	pass

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
7.26E-12 cm3/s	1.472 d	Estimated.

Biological oxygen demand (BOD):

BOD 5	BOD 10	BOD 20	BOD 28
20 - 72 %		78 - 86 %	

Chemical Oxygen Demand: 2.09 mg/mg
Theoretical Oxygen Demand: 2.40 mg/mg

Data for Component: **Alkylphenol alkoxylate**

Biodegradation under aerobic laboratory conditions is below detectable limits (BOD20 or BOD28/ThOD < 2.5%).
Chemical Oxygen Demand: 1.78 mg/mg
Theoretical Oxygen Demand: 2.35 mg/mg

Data for Component: **Triisopropanolamine**

Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%). Biodegradation rate may increase in soil and/or water with acclimation. Material is not readily biodegradable according to OECD/EEC guidelines.

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method	10 Day Window
0 %	28 d	OECD 301F Test	fail

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
1.2E-10 cm3/s	3 h	Estimated.

Biological oxygen demand (BOD):

BOD 5	BOD 10	BOD 20	BOD 28
47 %	70 %		

Theoretical Oxygen Demand: 2.35 mg/mg

Data for Component: **Balance**

No relevant data found.

Bioaccumulative potential

Data for Component: **2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt**

Bioaccumulation: For similar active ingredient(s). 2,4-Dichlorophenoxyacetic acid. Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Data for Component: **Picloram triisopropanolamine salt**

Bioaccumulation: For similar active ingredient(s). Picloram. Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Data for Component: **Isopropanol**

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient, n-octanol/water (log Pow): 0.05 Measured

Data for Component: **Alkylphenol alkoxylate**

Bioaccumulation: No bioconcentration is expected because of the relatively high water solubility. May foam in water.

Data for Component: **Triisopropanolamine**

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient, n-octanol/water (log Pow): -0.015 Measured
Bioconcentration Factor (BCF): < 0.57; Fish; Measured

Data for Component: **Balance**

Bioaccumulation: No relevant data found.

Mobility in soil

Data for Component: **2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt**

Mobility in soil: For similar active ingredient(s)., 2,4-Dichlorophenoxyacetic acid., Potential for mobility in soil is very high (Koc between 0 and 50).

Data for Component: **Picloram triisopropanolamine salt**

Mobility in soil: For similar active ingredient(s)., Picloram., Potential for mobility in soil is very high (Koc between 0 and 50).

Data for Component: **Isopropanol**

Mobility in soil: Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient, soil organic carbon/water (Koc): 1.1 Estimated.
Henry's Law Constant (H): 3.38E-06 - 8.07E-06 atm*m3/mole; 25 °C Estimated.

Data for Component: **Alkylphenol alkoxylate**

Mobility in soil: No data available.

Data for Component: **Triisopropanolamine**

Mobility in soil: Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient, soil organic carbon/water (Koc): 10 Estimated.
Henry's Law Constant (H): 1E-06 Pa m³/mol; 25 °C Estimated.

Data for Component: **Balance**

Mobility in soil: No relevant data found.

13. Disposal Considerations

If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

14. Transport Information

TDG Small container
NOT REGULATED

TDG Large container
NOT REGULATED

IMDG
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical Name: 2,4-D
Hazard Class: 9 **ID Number:** UN3082 **Packing Group:** PG III
EMS Number: F-A,S-F
Marine pollutant.: Yes

ICAO/IATA
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical Name: 2,4-D
Hazard Class: 9 **ID Number:** UN3082 **Packing Group:** PG III
Cargo Packing Instruction: 964
Passenger Packing Instruction: 964

15. Regulatory Information

CEPA - Domestic Substances List (DSL)
All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

Hazardous Products Act Information: CPR Compliance
This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Hazardous Products Act Information: WHMIS Classification
This product is exempt under WHMIS.

Pest Control Products Act Registration number: 9007

National Fire Code of Canada
Class II

16. Other Information

Hazard Rating System

NFPA	Health	Fire	Reactivity
	1	2	0

Recommended Uses and Restrictions

Identified uses

Product use: End use herbicide product

Revision

Identification Number: 50080 / 1023 / Issue Date 2013.03.27 / Version: 9.0
DAS Code: XRM-3779
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

N/A	Not available
W/W	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level
HAZ_DES	Hazard Designation
VOL/VOL	Volume/Volume

Dow AgroSciences Canada Inc. urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.