

SAFETY DATA SHEET



Tordon® 22K

Version	Revision Date:	SDS Number:	Date of last issue: 03/09/2022
1.1	05/23/2022	800080003197	Date of first issue: 03/09/2022

Corteva Agriscience™ encourages you and expects you to read and understand the entire SDS as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container. This Safety Data Sheet adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. IDENTIFICATION

Product name : Tordon® 22K

Manufacturer or supplier's details

COMPANY IDENTIFICATION

Manufacturer/importer : CORTEVA AGRISCIENCE LLC
9330 ZIONSVILLE RD
INDIANAPOLIS, IN, 46268-1053
UNITED STATES

Customer Information Number : 800-992-5994
E-mail address : customerinformation@corteva.com

Emergency telephone : INFOTRAC (CONTRACT 84224).
800-992-5994 or 317-337-6009

Recommended use of the chemical and restrictions on use

Recommended use : End use herbicide product

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)


Flammable liquids : Category 4

Skin sensitization : Category 1

GHS label elements

Tordon® 22K

Version 1.1 Revision Date: 05/23/2022 SDS Number: 800080003197 Date of last issue: 03/09/2022
 Date of first issue: 03/09/2022

- Hazard pictograms : 
- Signal Word : Warning
- Hazard Statements : H227 Combustible liquid.
H317 May cause an allergic skin reaction.
- Precautionary Statements : **Prevention:**
 P210 Keep away from heat/ sparks/ open flames/ hot surfaces.
 No smoking.
 P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
 P272 Contaminated work clothing must not be allowed out of the workplace.
 P280 Wear protective gloves/ eye protection/ face protection.
- Response:**
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P363 Wash contaminated clothing before reuse.
 P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
- Storage:**
 P403 + P235 Store in a well-ventilated place. Keep cool.
- 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	CAS-No.	Concentration (% w/w)
Picloram Potassium Salt	2545-60-0	24.4
potassium hydroxide	1310-58-3	>= 1 - < 3
Alkylphenol alkoxylate	69029-39-6	>= 1 - < 3
Balance	Not Assigned	> 60

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

If inhaled : Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respi-

SAFETY DATA SHEET



Tordon® 22K

Version 1.1 Revision Date: 05/23/2022 SDS Number: 800080003197 Date of last issue: 03/09/2022
Date of first issue: 03/09/2022

- ration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.
- In case of 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.
- In case of 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.
- If swallowed : 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 : None known.
- Protection of first-aiders : 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.
- Notes to physician : 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.
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SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
- Unsuitable extinguishing media : Do not use direct water stream.
High volume water jet
- Specific hazards during fire fighting : Exposure to combustion products may be a hazard to health. Vapors may form explosive mixtures with air. Do not allow run-off from fire fighting to enter drains or water courses. Flash back possible over considerable distance.

Tordon® 22K

Version	Revision Date:	SDS Number:	Date of last issue: 03/09/2022
1.1	05/23/2022	800080003197	Date of first issue: 03/09/2022

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 (NO_x)
 Hydrogen chloride gas
 Carbon oxides

Specific extinguishing methods : Remove undamaged containers from fire area if it is safe to do so.
 Evacuate area.
 Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Further information : Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed.
 Do not use a solid water stream as it may scatter and spread fire.
 Use a water spray to cool fully closed containers.
 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 : In the event of fire, wear self-contained breathing apparatus.
 Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
 Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions : If the product contaminates rivers and lakes or drains inform respective authorities.
 Discharge into the environment must be avoided.
 Prevent further leakage or spillage if safe to do so.
 Prevent spreading over a wide area (e.g., by containment or oil barriers).
 Retain and dispose of contaminated wash water.
 Local authorities should be advised if significant spillages cannot be contained.
 Prevent from entering into soil, ditches, sewers, undewater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up : Clean up remaining materials from spill with suitable absorbent.
 Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in.

Tordon® 22K

Version	Revision Date:	SDS Number:	Date of last issue: 03/09/2022
1.1	05/23/2022	800080003197	Date of first issue: 03/09/2022

For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, Recovered material should be stored in a vented container. The vent must prevent the ingress of water as further reaction with spilled materials can take place which could lead to over-pressurization of the container. Keep in suitable, closed containers for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Non-sparking tools should be used. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Suppress (knock down) gases/vapors/mists with a water spray jet. See Section 13, Disposal Considerations, for additional information.

SECTION 7. HANDLING AND STORAGE

- Local/Total ventilation : Use with local exhaust ventilation.
- Advice on safe handling : Avoid formation of aerosol.
 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.
 Provide sufficient air exchange and/or exhaust in work rooms.
 Do not breathe vapors/dust.
 Do not smoke.
 Handle in accordance with good industrial hygiene and safety practice.
 Avoid exposure - obtain special instructions before use.
 Smoking, eating and drinking should be prohibited in the application area.
 Do not get on skin or clothing.
 Avoid inhalation of vapor or mist.
 Do not swallow.
 Avoid contact with skin and eyes.
 Avoid contact with eyes.
 Keep container tightly closed.
 Keep away from heat and sources of ignition.
 Take precautionary measures against static discharges.
 Take care to prevent spills, waste and minimize release to the environment.
 Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.
- Conditions for safe storage : Store in a closed container.
 No smoking.
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.
 Keep in properly labeled containers.

Tordon® 22K

Version 1.1 Revision Date: 05/23/2022 SDS Number: 800080003197 Date of last issue: 03/09/2022
 Date of first issue: 03/09/2022

Store in accordance with the particular national regulations.

Materials to avoid : Strong oxidizing agents
 Explosives
 Gases

Packaging material : Unsuitable material: None known.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
potassium hydroxide	1310-58-3	C	2 mg/m ³	ACGIH
		C	2 mg/m ³	OSHA P0
Alkylphenol alkoxyate	69029-39-6	TWA	2 mg/m ³	Dow IHG

Engineering measures : Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.
 Local exhaust ventilation may be necessary for some operations.

Personal protective equipment

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, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.

Hand protection

Remarks : Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). 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.

Eye protection : Use chemical goggles.

SAFETY DATA SHEET



Tordon® 22K

Version 1.1 Revision Date: 05/23/2022 SDS Number: 800080003197 Date of last issue: 03/09/2022
Date of first issue: 03/09/2022

Skin and body 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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquid.

Color : Colorless

Odor : mild, sweet

Odor Threshold : No data available

pH : 7.23 (74.5 °F / 23.6 °C)
GLP: yes
(aqueous 10% slurry)

Melting point/range : Not applicable

Freezing point : No data available

Boiling point/boiling range : 212 °F / 100 °C

Flash point : 190 °F / 88 °C
Method: Setaflash Closed Cup ASTM D3828, closed cup

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapor pressure : 29.326 hPa (68 °F / 20 °C)
Approx.

Relative vapor density : 1.14
approximately

Density : 1.163 g/cm³ (68 °F / 20 °C)
Method: Digital density meter

Solubility(ies)
Water solubility : water solution

Tordon® 22K

Version	Revision Date:	SDS Number:	Date of last issue: 03/09/2022
1.1	05/23/2022	800080003197	Date of first issue: 03/09/2022

Autoignition temperature	:	No data available
Viscosity	:	
Viscosity, dynamic	:	< 5 mPa.s (77.7 °F / 25.4 °C)
Viscosity, kinematic	:	3.88 cSt (68 °F / 20 °C)
Explosive properties	:	No Method: EEC A14
Oxidizing properties	:	No significant increase (>5C) in temperature. GLP: yes

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	No decomposition if stored and applied as directed. Stable under normal conditions.
Possibility of hazardous reactions	:	Stable under recommended storage conditions. No hazards to be specially mentioned. Vapors may form explosive mixture with air. May form explosive dust-air mixture.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong acids Strong bases
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: Nitrogen oxides (NOx) Hydrogen chloride gas Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity****Product:**

Acute oral toxicity	:	LD50 (Rat, male and female): > 5,000 mg/kg
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 8.11 mg/l Exposure time: 4 h Test atmosphere: Aerosol Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg

Tordon® 22K

Version 1.1 Revision Date: 05/23/2022 SDS Number: 800080003197 Date of last issue: 03/09/2022
Date of first issue: 03/09/2022

Components:**Picloram Potassium Salt:**

- Acute oral toxicity : LD50 (Rat, female): 2,675 mg/kg
- Acute inhalation toxicity : LC50 (Rat): > 1.6 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: For similar material(s):
Maximum attainable concentration.
- Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Method: Estimated.
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on information for a similar material:

potassium hydroxide:

- Acute oral toxicity : LD50 (Rat, male): 333 mg/kg

Alkylphenol alkoxyate:

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
- Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg

Skin corrosion/irritation**Product:**

- Result : No skin irritation

Components:**Picloram Potassium Salt:**

- Result : No skin irritation

potassium hydroxide:

- Result : Causes severe burns.

Alkylphenol alkoxyate:

- Species : Rabbit
Result : No skin irritation

Serious eye damage/eye irritation**Product:**

- Result : No eye irritation

Tordon® 22K

Version 1.1 Revision Date: 05/23/2022 SDS Number: 800080003197 Date of last issue: 03/09/2022
Date of first issue: 03/09/2022

Components:**Picloram Potassium Salt:**

Result : Eye irritation

potassium hydroxide:

Result : Corrosive

Alkylphenol alkoxyate:

Species : Rabbit
Result : No eye irritation

Respiratory or skin sensitization**Product:**

Assessment : May cause sensitization by skin contact.

Components:**Picloram Potassium Salt:**

Assessment : Does not cause skin sensitization.
Remarks : For similar active ingredient(s).
Picloram.
Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

potassium hydroxide:

Remarks : Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

Alkylphenol alkoxyate:

Species : Guinea pig
Assessment : Does not cause skin sensitization.

Germ cell mutagenicity**Components:****Picloram Potassium Salt:**

Germ cell mutagenicity - Assessment : For similar active ingredient(s)., The preponderance of data shows picloram to be non-mutagenic in 'in vitro' (test tube) tests and in animal test systems.

Tordon® 22K

Version 1.1 Revision Date: 05/23/2022 SDS Number: 800080003197 Date of last issue: 03/09/2022
Date of first issue: 03/09/2022

Alkylphenol alkoxylate:

Germ cell mutagenicity - Assessment : In vitro genetic toxicity studies were negative.

Carcinogenicity**Components:****Picloram Potassium Salt:**

Carcinogenicity - Assessment : For similar active ingredient(s), Picloram acid., Did not cause cancer in laboratory animals.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity**Components:****Picloram Potassium Salt:**

Reproductive toxicity - Assessment : For similar active ingredient(s), Picloram acid., In animal studies, did not interfere with reproduction. Did not cause birth defects or any other fetal effects in laboratory animals.

Alkylphenol alkoxylate:

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction., In animal studies, did not interfere with fertility. Did not cause birth defects or any other fetal effects in laboratory animals.

STOT-single exposure**Product:**

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Components:**Picloram Potassium Salt:**

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

potassium hydroxide:

Assessment : Available data are inadequate to determine single exposure specific target organ toxicity.

Tordon® 22K

Version 1.1 Revision Date: 05/23/2022 SDS Number: 800080003197 Date of last issue: 03/09/2022
Date of first issue: 03/09/2022

Alkylphenol alkoxyate:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

STOT-repeated exposure**Product:**

Assessment : Evaluation of available data suggests that this material is not an STOT-RE toxicant.

Repeated dose toxicity**Components:****Picloram Potassium Salt:**

Remarks : Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

potassium hydroxide:

Remarks : Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs.

Alkylphenol alkoxyate:

Remarks : In animals, effects have been reported on the following organs:
Kidney.
Liver.

Aspiration toxicity**Product:**

Based on physical properties, not likely to be an aspiration hazard.

Components:**Picloram Potassium Salt:**

Based on physical properties, not likely to be an aspiration hazard.

potassium hydroxide:

Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

Alkylphenol alkoxyate:

Based on physical properties, not likely to be an aspiration hazard.

Tordon® 22K

Version	Revision Date:	SDS Number:	Date of last issue: 03/09/2022
1.1	05/23/2022	800080003197	Date of first issue: 03/09/2022

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity**Product:**

- Toxicity to fish : Remarks: 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).
- LC50 (Oncorhynchus mykiss (rainbow trout)): 26 mg/l
Exposure time: 96 h
Test Type: flow-through test
- Toxicity to daphnia and other aquatic invertebrates : EC50 (eastern oyster (Crassostrea virginica)): 18 - 32 mg/l
Exposure time: 48 h
Test Type: flow-through test
- Toxicity to algae/aquatic plants : EC50 (Skeletonema costatum (marine diatom)): 14 mg/l
Exposure time: 120 h
Test Type: static test
- EC50 (diatom Navicula sp.): 3.9 mg/l
End point: Biomass
- Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): > 2,388.89 mg/kg
Exposure time: 14 d
- Toxicity to terrestrial organisms : Remarks: Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).
- dietary LC50 (Anas platyrhynchos (Mallard duck)): > 10000 mg/kg diet.
- dietary LC50 (Colinus virginianus (Bobwhite quail)): > 10000 mg/kg diet.
Exposure time: 8 d
- contact LD50 (Apis mellifera (bees)): > 20 micrograms/bee
Exposure time: 24 h

Ecotoxicology Assessment

- Acute aquatic toxicity : Toxic to aquatic life.
- Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

Components:**Picloram Potassium Salt:**

- Toxicity to fish : Remarks: For similar material(s):
Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

Tordon® 22K

Version	Revision Date:	SDS Number:	Date of last issue: 03/09/2022
1.1	05/23/2022	800080003197	Date of first issue: 03/09/2022

LC50 (Lepomis macrochirus (Bluegill sunfish)): 137 mg/l
Exposure time: 96 h

LC50 (Oncorhynchus mykiss (rainbow trout)): 48 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 212 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EbC50 (Pseudokirchneriella subcapitata (green algae)): 85.5 mg/l
End point: Biomass
Exposure time: 120 h

ErC50 (Myriophyllum spicatum): 0.558 mg/l
Exposure time: 14 d
Remarks: For similar material(s):

NOEC (Myriophyllum spicatum): 0.0095 mg/l
Exposure time: 14 d
Remarks: For similar material(s):

M-Factor (Acute aquatic toxicity) : 1

M-Factor (Chronic aquatic toxicity) : 10

Toxicity to terrestrial organisms : Remarks: Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

oral LD50 (Anas platyrhynchos (Mallard duck)): > 2,250 mg/kg

oral LD50 (Colinus virginianus (Bobwhite quail)): > 5,620 mg/kg

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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

potassium hydroxide:

Toxicity to fish : Remarks: May increase pH of aquatic systems to > pH 10 which may be toxic to aquatic organisms.

Alkylphenol alkoxyate:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 4.8 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203 or Equivalent

Tordon® 22K

Version	Revision Date:	SDS Number:	Date of last issue: 03/09/2022
1.1	05/23/2022	800080003197	Date of first issue: 03/09/2022

LC50 (Oncorhynchus mykiss (rainbow trout)): 3.7 mg/l
 Exposure time: 96 h
 Test Type: static test
 Method: OECD Test Guideline 203 or Equivalent

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 10.5 mg/l
 Exposure time: 48 h
 Method: OECD Test Guideline 202 or Equivalent

Toxicity to terrestrial organisms : dietary LC50 (Apis mellifera (bees)): > 105 micrograms/bee
 Exposure time: 2 d

contact LD50 (Apis mellifera (bees)): > 100 micrograms/bee
 Exposure time: 2 d

No Observed Effects Level (NOEL) (Colinus virginianus (Bobwhite quail)): 2,250 mg/kg

oral LD50 (Colinus virginianus (Bobwhite quail)): > 2,250 mg/kg

Ecotoxicology Assessment

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

Persistence and degradability**Components:****Picloram Potassium Salt:**

Biodegradability : Remarks: 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.

Chemical Oxygen Demand (COD) : 0.64 kg/kg

ThOD : 0.86 kg/kg

potassium hydroxide:

Biodegradability : Remarks: Biodegradation is not applicable.

Alkylphenol alkoxyate:

Biodegradability : Result: Not biodegradable
 Remarks: Biodegradation under aerobic laboratory conditions

Tordon® 22K

Version	Revision Date:	SDS Number:	Date of last issue: 03/09/2022
1.1	05/23/2022	800080003197	Date of first issue: 03/09/2022

is below detectable limits (BOD20 or BOD28/ThOD < 2.5%). 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.

Chemical Oxygen Demand (COD) : 1.78 kg/kg

ThOD : 2.35 kg/kg

Bioaccumulative potential**Components:****Picloram Potassium Salt:**

Partition coefficient: n-octanol/water : Remarks: For similar active ingredient(s). Picloram. Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5). Potential for mobility in soil is very high (Koc between 0 and 50).

potassium hydroxide:

Partition coefficient: n-octanol/water : Remarks: Partitioning from water to n-octanol is not applicable.

Alkylphenol alkoxyate:

Partition coefficient: n-octanol/water : Remarks: No bioconcentration is expected because of the relatively high water solubility. May foam in water.

Balance:

Partition coefficient: n-octanol/water : Remarks: No relevant data found.

Mobility in soil**Components:****Picloram Potassium Salt:**

Distribution among environmental compartments : Remarks: For similar active ingredient(s). Picloram. Potential for mobility in soil is very high (Koc between 0 and 50).

potassium hydroxide:

Distribution among environmental compartments : Remarks: No data available for assessment due to technical difficulties with testing.

Balance:

Tordon® 22K

Version	Revision Date:	SDS Number:	Date of last issue: 03/09/2022
1.1	05/23/2022	800080003197	Date of first issue: 03/09/2022

Distribution among environmental compartments : Remarks: No relevant data found.

Other adverse effects**Components:****Picloram Potassium Salt:**

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

potassium hydroxide:

Results of PBT and vPvB assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Alkylphenol alkoxyate:

Results of PBT and vPvB assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Balance:

Results of PBT and vPvB assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13. DISPOSAL CONSIDERATIONS
Disposal methods

Waste from residues : 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 appli-

Tordon® 22K

Version	Revision Date:	SDS Number:	Date of last issue: 03/09/2022
1.1	05/23/2022	800080003197	Date of first issue: 03/09/2022

cable regional, national and local laws.

SECTION 14. TRANSPORT INFORMATION
International Regulations**UNRTDG**

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Picloram)
Class	:	9
Packing group	:	III
Labels	:	9

IATA-DGR

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

IMDG-Code

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

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

Not applicable for product as supplied.

Domestic regulation**49 CFR**

UN/ID/NA number	:	NA 1993
Proper shipping name	:	Combustible liquid, n.o.s. (Picloram)
Class	:	CBL
Packing group	:	III
Labels	:	NONE
ERG Code	:	128
Marine pollutant	:	no
Reportable Quantity	:	Potassium hydroxide only regulated in pack sizes > 17,482 kg

SAFETY DATA SHEET



Tordon® 22K

Version 1.1 Revision Date: 05/23/2022 SDS Number: 800080003197 Date of last issue: 03/09/2022
Date of first issue: 03/09/2022

Further information

Marine Pollutants assigned UN number 3077 and 3082 in single or combination packaging containing a net quantity per single or inner packaging of 5L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code, IATA Special provision A197, and ADR/RID special provision 375.

This product is only classified in containers over 119 gallons or 450 liters. Not regulated if shipped in packages less than or equal to 119 gallons (450 liters). If transporting by vessel or aircraft, unless other means of transportation is impracticable, the product must be shipped as a flammable liquid.

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

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
Respiratory or skin sensitization

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Pennsylvania Right To Know

potassium hydroxide

1310-58-3

California Prop. 65

WARNING: This product can expose you to chemicals including sulphuric acid, hexachlorobenzene, propylene oxide, ethylene oxide, which is/are known to the State of California to cause cancer, and

hexachlorobenzene, ethylene oxide, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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

TSCA : Product contains substance(s) not listed on TSCA inventory.

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

Federal Insecticide, Fungicide and Rodenticide Act

EPA Registration Number : 62719-006

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for

Tordon® 22K

Version	Revision Date:	SDS Number:	Date of last issue: 03/09/2022
1.1	05/23/2022	800080003197	Date of first issue: 03/09/2022

workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION

Causes moderate eye irritation
Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

SECTION 16. OTHER INFORMATION

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
Dow IHG	:	Dow Industrial Hygiene Guideline
OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
ACGIH / C	:	Ceiling limit
Dow IHG / TWA	:	Time Weighted Average (TWA):
OSHA P0 / C	:	Ceiling limit

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECl - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Con-

SAFETY DATA SHEET



Tordon® 22K

Version	Revision Date:	SDS Number:	Date of last issue: 03/09/2022
1.1	05/23/2022	800080003197	Date of first issue: 03/09/2022

trol Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 05/23/2022

Product code: XRM-4713

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 guidance 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.

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