

Resist™ Herbicide

Version 1.1

Revision Date: 09/15/2015

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Resist™ Herbicide
Tradenname/Synonym : Resist

Metribuzin: 4-Amino-6-(1,1-dimethylethyl)-3-(methylthio)-1,2,4-triazin-5(4H)-one
Chlorimuron Ethyl: Ethyl 2-[[[(4-chloro-6-methoxypyrimidin-2-yl)amino]carbonyl]amino]sulfonyl]benzoate

Product Use : Herbicide

Restrictions on use :

Do not use product for anything outside of the above specified uses

Manufacturer/Distributor : Tenkoz, Inc.
1725 Windward Concourse, Suite 410
Alpharetta, GA 30005, USA

Medical Emergency :
Transport Emergency :
CHEMTREC: +1-800-424-9300

SECTION 2. HAZARDS IDENTIFICATION**Product hazard category**

Acute toxicity (Oral)	Category 4
Skin irritation	Category 2
Serious eye damage/eye irritation	Category 2B
Specific target organ toxicity - single exposure	Category 3

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Label content

Pictogram :



Signal word :

Warning

Hazardous warnings :

Harmful if swallowed.
Causes skin and eye irritation.
May cause respiratory irritation.
May cause drowsiness or dizziness.

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Hazardous prevention measures

: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves.
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a POISON CENTER or doctor/ physician if you feel unwell.
Rinse mouth.
If skin irritation occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/ container to an approved waste disposal plant.

Other hazards

No applicable data available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Metribuzin	21087-64-9	64.3 %
Chlorimuron ethyl	90982-32-4	10.7 %
Titanium dioxide	13463-67-7	0.1 - 0.5 %

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Other Ingredients		24.5 - 24.9 %
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The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4. FIRST AID MEASURES

- General advice : Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
For medical emergencies involving this product, call toll free 1-800-424-9300.
See Label for Additional Precautions and Directions for Use.
- Inhalation : Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
- Skin contact : Take off all contaminated clothing immediately. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- Eye contact : Hold eye 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 eye. Call a poison control center or doctor for treatment advice.
- Ingestion : Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless directed to do so by a physician or poison control center.
- Most important symptoms/effects, acute and delayed : No applicable data available.
- Protection of first-aiders : No applicable data available.
- Notes to physician : No applicable data available.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water spray, Foam, Dry chemical, Carbon dioxide (CO2)

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- Unsuitable extinguishing media : High volume water jet, (contamination risk)
- Specific hazards : Not a fire or explosion hazard. Under severe dusting conditions, this material may form explosive mixtures in air.
- Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.
- Further information : Evacuate personnel and keep upwind of fire. Runoff from fire control may be a pollution hazard. Control Runoff.
(on small fires) If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers/tanks with water spray.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

- Safeguards (Personnel) : Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. Use personal protective equipment.
- Environmental precautions : Prevent material from entering sewers, waterways, or low areas.
- Spill Cleanup : Dike spill. Sweep up and shovel into suitable containers for disposal. If spill area is on ground near valuable plants or trees, remove top 2 inches of soil after initial cleanup.
- Accidental Release Measures : Never return spills in original containers for re-use. Dispose of in accordance with local regulations.
Follow applicable Federal, State/Provincial and Local laws/regulations.

SECTION 7. HANDLING AND STORAGE

- Handling (Personnel) : Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing/PPE immediately if material gets inside. Wash thoroughly and put on

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clean clothing. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

- Handling (Physical Aspects) : Keep away from heat and sources of ignition. Avoid dust formation.
- Dust explosion class : No applicable data available.
- Storage : Store in original container. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place. Keep out of the reach of children.
- Storage period : No applicable data available.
- Storage temperature : No applicable data available.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering controls : Use only with adequate ventilation. When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS. IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified for "Applicators and Other Handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.
- Personal protective equipment
- Skin and body protection : Applicators and other handlers must wear:
 Long sleeved shirt and long pants
 Chemical resistant gloves made of any waterproof material, such as polyethylene or polyvinyl chloride.
 Shoes plus socks
 PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:
 Coveralls
 Chemical resistant gloves made of any waterproof material, such as polyethylene or polyvinyl chloride.
 Shoes plus socks
- Protective measures : Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them. Follow

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manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Exposure Guidelines
Exposure Limit Values

Metribuzin			
TLV	(ACGIH)	5 mg/m ³	TWA
AEL *	(AGSURF)	5 mg/m ³	8 & 12 hr. TWA Total dust.
Chlorimuron ethyl			
AEL *	(AGSURF)	10 mg/m ³	8 & 12 hr. TWA Total dust.
AEL *	(AGSURF)	5 mg/m ³	8 & 12 hr. TWA Respirable dust.
Titanium dioxide			
Permissible exposure limit:	(OSHA)	15 mg/m ³	8 hr. TWA Total dust.
TLV	(ACGIH)	10 mg/m ³	TWA
AEL *	(AGSURF)	10 mg/m ³	8 & 12 hr. TWA Total dust.
AEL *	(AGSURF)	5 mg/m ³	8 & 12 hr. TWA Respirable dust.

Other Ingredients

No applicable data available.

* AEL is AGSURF's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Physical state : solid
 Form : solid, granules
 Color : brown

Odor : slight

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Odor threshold	: No applicable data available.
pH	: 6.8 - 7.8
Melting point/range	: No applicable data available.
Boiling point/boiling range	: No applicable data available.
Flash point	: No applicable data available.
Evaporation rate	: No applicable data available.
Flammability (solid, gas)	: No applicable data available.
Upper explosion limit	: No applicable data available.
Lower explosion limit	: No applicable data available.
Vapour Pressure	: No applicable data available.
Vapour density	: No applicable data available.
Specific gravity (Relative density)	: No applicable data available.
Water solubility	: dispersible
Solubility(ies)	: No applicable data available.
Partition coefficient: n-octanol/water	: No applicable data available.
Auto-ignition temperature	: No applicable data available.
Decomposition temperature	: No applicable data available.
Viscosity, kinematic	: No applicable data available.
Viscosity, dynamic	: No applicable data available.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No applicable data available.
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Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Polymerization will not occur.
Conditions to avoid	:	No applicable data available.
Incompatible materials	:	None reasonably foreseeable.
Hazardous decomposition products	:	Decomposition will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

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Inhalation 4 h LC50	:	> 5.3 mg/l , Rat
Dermal LD50	:	> 5,000 mg/kg , Rat
Skin irritation	:	Skin irritation, Rabbit
Eye irritation	:	Mild eye irritation, Rabbit
Sensitisation	:	Did not cause sensitisation on laboratory animals., Guinea pig

Metribuzin

Oral LD50	:	1,030 mg/kg , Rat Target Organs: Central nervous system Central nervous system effects
Repeated dose toxicity	:	Inhalation Rat - 21 d dust/mist NOAEL: 0.72 mg/l LOAEL: > 0.72 mg/l No toxicologically significant effects were found.
Carcinogenicity	:	Not classifiable as a human carcinogen. Animal testing did not show any carcinogenic effects.
Mutagenicity	:	Animal testing did not show any mutagenic effects. Did not cause genetic damage in cultured bacterial cells. Genetic damage in cultured mammalian cells was observed in some laboratory tests but not in others.

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Reproductive toxicity : No toxicity to reproduction
No effects on or via lactation
Animal testing showed no reproductive toxicity.

Teratogenicity : Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Chlorimuron ethyl

Oral LD50 : 4,102 mg/kg , Rat

Repeated dose toxicity : The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.

Dermal
Rabbit

-

No toxicologically significant effects were found.

Oral
Dog

-

No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification., Abnormal decrease in number of red blood cells

Oral
Rat

-

No adverse effect has been observed in chronic toxicity tests.

Carcinogenicity : Not classifiable as a human carcinogen.
Animal testing did not show any carcinogenic effects.

Mutagenicity : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Animal testing did not show any mutagenic effects.

Reproductive toxicity : No toxicity to reproduction

Teratogenicity : Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Titanium dioxide

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Oral LD50	:	> 5,000 mg/kg , Rat
Repeated dose toxicity	:	Oral Rat - NOAEL: 1,000 mg/kg Method: OECD Test Guideline 408 No toxicologically significant effects were found.
Carcinogenicity	:	Not classifiable as a human carcinogen. Overall weight of evidence indicates that the substance is not carcinogenic.
Mutagenicity	:	Animal testing did not show any mutagenic effects. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Reproductive toxicity	:	Animal testing showed no reproductive toxicity.
Teratogenicity	:	Animal testing showed no developmental toxicity.

Carcinogenicity

The carcinogenicity classifications for this product and/or its ingredients have been determined according to HazCom 2012, Appendix A.6. The classifications may differ from those listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or those found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition).

Material	IARC	NTP	OSHA
Titanium dioxide	2B		

SECTION 12. ECOLOGICAL INFORMATION**Aquatic Toxicity****Metribuzin**

96 h LC50	:	Oncorhynchus mykiss (rainbow trout) 74.6 mg/l
72 h EC50	:	Desmodesmus subspicatus (green algae) 0.007 mg/l
48 h EC50	:	Daphnia magna (Water flea) 98.5 mg/l

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21 d : NOEC Oncorhynchus mykiss (rainbow trout) 5.6 mg/l

21 d : NOEC Daphnia magna (Water flea) 0.32 mg/l

Chlorimuron ethyl

96 h LC50 : Oncorhynchus mykiss (rainbow trout) > 1,000 mg/l

96 h LC50 : Lepomis macrochirus (Bluegill sunfish) > 100 mg/l

72 h EC50 : Pseudokirchneriella subcapitata (green algae) 0.001 mg/l

48 h EC50 : Daphnia magna (Water flea) > 1,000 mg/l

Titanium dioxide

96 h LC50 : Pimephales promelas (fathead minnow) > 1,000 mg/l

72 h ErC50 : Pseudokirchneriella subcapitata (green algae) > 100 mg/l see user defined free text

72 h NOEC : Algae 5,600 mg/l see user defined free text

48 h EC50 : Daphnia magna (Water flea) > 100 mg/l OECD Test Guideline 202

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 apply where/when conditions favour runoff. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods - Product : Do not contaminate water, food or feed by disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Waste disposal methods - Container : Container Refilling and Disposal:
Refer to the product label for instructions.

In the event of a major spill, fire or other emergency, call 1-800-424-9300 day or night.

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Contaminated packaging : No applicable data available.

SECTION 14. TRANSPORT INFORMATION

IATA_C	UN number	: 3077
	Proper shipping name	: Environmentally hazardous substance, solid, n.o.s. (Chlorimuron ethyl, Metribuzin)
	Class	: 9
	Packing group	: III
	Labelling No.	: 9MI
IMDG	UN number	: 3077
	Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Chlorimuron ethyl, Metribuzin)
	Class	: 9
	Packing group	: III
	Labelling No.	: 9
	Marine pollutant	: yes (Chlorimuron ethyl, Metribuzin)

Not regulated as a hazardous material by DOT.

SECTION 15. REGULATORY INFORMATION

Other regulations : This Safety Data Sheet is for a pesticide product registered by the US Environmental Protection Agency (USEPA) and is therefore also subject to certain labeling requirements under US pesticide law (FIFRA). These requirements differ from the classification criteria and hazard information required by OSHA for safety data sheets, and for workplace labels of non-pesticide chemicals. The following is the mandatory hazard information required by USEPA on the pesticide label:

CAUTION!

Harmful if swallowed, inhaled or absorbed through skin. Causes moderate eye irritation. Avoid breathing dust. Avoid breathing vapours or mist. Avoid contact with skin, eyes and clothing.

SARA 313 Regulated : Metribuzin, Chlorimuron ethyl

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Chemical(s)

PA Right to Know
Regulated Chemical(s) : Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Substances):
Metribuzin, Kaolin, 1,2-Benzisothiazol-3(2H)-one 1,1-dioxide

Title III hazard
classification : Acute Health Hazard: Yes
Chronic Health Hazard: No
Fire: No
Reactivity/Physical hazard: No
Pressure: No

CERCLA Reportable
Quantity : 934579 lbs
Based on the percentage composition of this chemical in the product.:
Xylene

EPA Reg. No. : 352-444-55467
In the United States this product is regulated by the US Environmental Protection Agency (EPA) under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.

SECTION 16. OTHER INFORMATION

	NFPA
Health :	1
Flammability :	1
Reactivity/Physical hazard :	0

Revision date : 09/15/2015

Contact person : Tenkoz, Inc., Alpharetta, GA, 30005

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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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