

# OxiDate®



## Tank-Mix & Product Compatibility Guide

OxiDate, is a peroxyacetic acid (PAA) based, liquid bactericide/fungicide, EPA-registered to treat and control plant pathogens on a wide range of crops. It is a keystone chemistry that strengthens spray programs by reducing disease pressure. OxiDate is a versatile tank-mixing partner that can be used with many commonly use pesticides and fertilizers.

### **Sprayer Guidelines:**

OxiDate is a strong oxidizing agent with a low pH and can react with pesticides/fertilizers that have a metal ion in their formulation. As such, it is important to thoroughly rinse out spray tanks prior to using OxiDate to prevent any reaction with residues remaining in the tank. Coverage is critical to product performance. It is recommended to use appropriate nozzles and solution volume (gallons per acre) based on crop and canopy density. For best performance, thoroughly apply solution to ensure full coverage of all plant tissue. To improve performance, it is recommended to use a non-ionic surfactant to increase the contact time on the plant surface.

## **Tank-Mixing Notes**

- Always dilute OxiDate by 80% before adding tank-mix partners.
- Take caution when mixing OxiDate with products containing metal ions, as some of these products may be incompatible.
- Wait 48–72 hours after applying some metal ion-based products before applying OxiDate.
- OxiDate will lower the pH of the water, always check solution before adjusting pH.
- Do not tank-mix OxiDate with more than 2–3 additional products for ground spray applications.
- Do not tank-mix OxiDate with more than 1–2 additional products in low water volume solutions, such as for aerial or electrostatic applications.
- Use only non-ionic surfactants when applying OxiDate.
- Do not tank-mix with biological-based biopesticides such as *Bacillus*, *Beauveria*, and *Bt* species. Please consult your BioSafe Systems rep for further information when tank-mixing with biological-based fungicides/insecticides.

## Tank-Mixing Instructions

1. Fill the tank with 50% of the required water volume.
2. Begin agitation when the tank is half full before adding OxiDate and continue agitation through the entire mixing process.
3. Add the needed amount (recommended % v/v) of OxiDate for total tank-mix volume.
4. Then fill the water up to 80% of the total desired solution volume.
5. Add any compatibility agents and anti-foamers, as necessary.
6. Begin adding the remaining desired compatible pesticides to the tank in the following order based on formulation type: water soluble packets (WPS); dry formulations (DF, WDG, WG, WP, SG); dry or solid anti-drift agents; dispersed liquid formulations (SC, F, FL, SE, EW, CS); liquid drift retardants; remaining liquid formulations (EC, OD, S, SL); lastly add any needed adjuvants and compatible fertilizers.
7. Continue agitation for 3–5 minutes between the addition of each supplemental product to ensure proper mixing.
8. Fill the tank with remaining water needed to reach full volume.

Contact your BioSafe Systems technical representative for more detailed tank-mix instructions and to learn more about product interactions prior to mixing and applying tank-mix solutions. Always read and follow label instructions. Jar tests should be conducted when combining products to ensure compatibility before tank-mixing. All products, including tank-mixes, should be tested for phytotoxicity before widespread use.

All products tested were evaluated to determine physical and chemical compatibility of the single listed product in solution with BioSafe Systems' peroxyacetic acid-based product. Multiple product tank-mix testing was not conducted; therefore, it is recommended that you conduct a jar test and phytotoxicity evaluation for any desired multi-product tank-mix application prior to large-scale use.

# Fungicides, Bactericides

Active Ingredient	Common Trade Names	Compatibility
<b>Fungicides, Bactericides</b>		
Acibenzolar-S-methyl	Actigard 50WG	●
Azoxystrobin	Quadris, Abound	●
Banda de Lupinus albus doce (BLAD)	Fracture	◆■
Boscalid	Endura	●
Captan	Captan	●
Chlorothalonil	Bravo, Echo, Ridomil	●
Copper Hydroxide	Champ WG, Kocide 3000, ChampION++	✗
Copper Hydroxide + Copper Oxychloride	Badge X2	✗
Copper Octanoate	Cueva, Camelot O	●
Copper Sulfate	Agri Star Basic Copper 53, Cuprofix Ultra, Cuproxat	✗
Cyazofamid	Ranman	◆■
Difenconazole	Qaudris Top	●
Famoxadone	Tanos	●
Fenhexamid	Elevate, Decree	●
Fenamidone	Reason	●
Fluazinam	Omega	◆■
Fluoxastrobin	Evito, Tepera	●
Fludioxonil	Emblem, Maxim, Medallion, Scholar, Stadium	●
Flutalonil	ProStar	●
Fluopicolide	Adorn, Presidio	●
Fluopyram	Luna, Propulse, Velum	●
Flutriafol	Topguard, Lucento	●
Fosetyl-aluminum	Aliette	●
Iprodione	Metor, Rovarl	●
Mancozeb	Manzate, Penncozeb, Dithane	✗
Mancozeb & Copper	Mankocide	✗
Mandipropamid	Revus	◆
Mefenoxam	Apron, Ordonis, Ridomil, Subdue	●
Metconazole	Caramba, Quash	●
Myclobutanil	Rally, Sonoma	●
Paraffinic oil	JMS Stylet Oil	●
Salts of Phosphorus acid	Kphite, <b>OxiPhos</b> <sup>®</sup> , Phostrol	●
Potassium silicate	Sil-Matrix	◆■
Picoxystrobin	Aproach	●

# Fungicides, Bactericides

Active Ingredient	Common Trade Names	Compatibility
<b>Fungicides, Bactericides Continued</b>		
Propiconazole	Tilt, Bumper, Banner, Quilt, Trivapro, Stratego	●
Prothioconazole	Proline, Propulse, Prosaro, Delaro	●
Pyraclostrobin	Headline, Priaxor	●
Pyrimethanil	Luna, Scala	●
Sodium Carbonate Peroxyhydrate	<b>PerCarb®</b>	✘
Sulfur	Microthiol Disperss, Sulfur 6L, Sulfur 90W	●
Sulfur (lime)	Lime sulfur solution, lime sulfur six	◆■
Tebuconazole	Luna, Velum, Folicur	●
Tetraconazole	Domark, Eminent, Minerva, Priaxor	●
Thiophanate-methyl	Incognito, Topsin	●
Thiram	Thiram	◆■
Thyme Oil	<b>Guarda®</b>	●
Triphenyltin Hydroxide	Super Tin, Agri Tin	●
Trifloxystrobin	Flint, Gem, Stratego	●
Triflumizole	Procure, Trionic	●
Triticonazole	Trinity	●
<b>Biological and Other Misc. Fungicides, Bactericides</b>		
<i>Bacillus</i> species	DoubleNickel, Triathlon, Cease, Rhapsody, Companion, Serenade, Sonata	✘
Bicarbonates	KaliGreen, ArmiCarb, Remedy	✘
<i>Gliocladium</i> species	Prestop, SoilGard	✘
Horticultural oils	Dormant Oil 435, Forest Crop Oil	✘
Oxytetracycline	MycoShield, Fireline	●
Paraffinic oil	JMS Stylet Oil	●
<i>Reynoutria sachalinensis</i>	Regalia	●
Streptomycin / Streptomyces	AgriMycin, Harbour, Firewall, Actinovate, MycoStop	●
<i>Trichoderma</i> species	RootShield	✘

Key	
Compatible	●
Not Compatible	✘
Jar Test Needed	◆
Phytotoxicity Test Needed	■

# Insecticides

Active Ingredient	Common Trade Names	Compatibility
<b>Insecticides</b>		
Abamectin	Abacus, Abamex, Agri-Mek SC	●
Acephate	Orthene97, Acephate 90	●
Acetamiprid	Assail	●
Bifenthrin	Athena, Brigade, Hero	●
Carbaryl	Carbaryl 4L, Sevin XLR Plus	●
Chlorantraniliprole	Altacor, Coragen	●
Chlorpyrifos	Bolton, Cobalt, Lorsban 4E	◆■
Cyromazine	Armor, Trigard	◆■
Diflubenzuron	Cavalier, Dimilin	◆■
Dimethoate	Dimethoate 4EC, Dimate 4EC	◆■
Emamectin benzoate	Proclaim	●
Flonicamid	Beleaf	◆■
Imidacloprid	Admire Pro, Merit	●
Indoxacarb	Avaunt, Steward	✗
Lambda-cyhalothrin	Warrior	◆■
Malathion	Malathion 57EC, Fyfanon ULV AG	●
Methomyl	Lannate	◆■
Naled	DiBrom	◆■
Oxamyl	Vydate	◆■
Permethrin	Ambush, Artic, Pounce	◆■
Propargite	Omite	◆■
Pyriproxyfen	Distance IGR, Esteem 0.86EC, Knack IGR, Seize 35WP	◆■
Spiromesifen	Oberon	●
Sodium aluminofluoride	Prokil Cryolite 96	◆■
Thiamethuxam	Cruiser	◆■

Key	
Compatible	●
Not Compatible	✗
Jar Test Needed	◆
Phytotoxicity Test Needed	■

# Insecticides

Active Ingredient	Common Trade Names	Compatibility
<b>Biological and Other Misc. Insecticides</b>		
Abamectin + Cyantraniliprole	Minecto Pro	●
Azadirachtin	<b>AzaGuard</b> <sup>®</sup> , Aza-Direct, Neemix	●
Azadirachtin/Pyrethins	Azera	●
<i>Bacillus thuringiensis</i> spp.	<b>BT NOW</b> <sup>®</sup> , Agree, Javelin, Dipel, XenTari	✗
<i>Beauveria bassiana</i>	<b>BioCeres WP</b> , BotaniGard	✗
Beta-cyfluthrin	Baythroid	●
<i>Burkholderia</i> species.	Venerate	✗
Canola oil/garlic oil/capsicum oleoresin extract	Captiva Prime	◆■
<i>Chromobacterium subtsugae</i>	Grandevo	✗
Diflubenzuron	Micromite 2L	●
Flupyradifurone	Sivanto	●
<i>Isaria fumosorosea</i>	PFR-97	✗
<i>Metarhizium anisopliae</i>	Met 52 EC	✗
Mineral oil	TriTek, Sol-oil 97, Bi0Cover 4L, PureSpray Green	●
Neem oil	Triology, Triact 70	●
Paraffinic oil	JMS Stylet Oil	●
Geraniol/peppermint oil/rosemary oil	Ecotec	●
Potassium silicate	Sil-Matrix	◆■
Potassium salts of fatty acids	Des-X, M-Pede	✗
Pyrethrins	Pyganic EC	●■
Spinetoram	Radiant	●
Spinosad	Entrust	●
Spirotetramat	Movento	●
Sulfur	Microthiol Dispress, Crusade DF, Kumulus DF	●
Thiamethoxam	Actara	●
Tolfenpyrad	Apta	●
Virus based	CYD-X HP, GemStar, Virosoft CP4	✗
Zeta-cypermethrin	Mustang	●

Key	
Compatible	●
Not Compatible	✗
Jar Test Needed	◆
Phytotoxicity Test Needed	■

# Adjuvants

Product Type	Common Trade Names	Compatibility
Alkyl Aryl Polyoxylkane ethers, alkanolamides, dimethyl siloxane, Free Fatty Acids	Induce	●
Alkyl phenol ethoxylate	Activator 90	●
Alcohol ethoxylate	Wetcit, Oroboost, Vintre	●
Modified vegetable oil, polyoxyethylene sorbitan fatty acid ester, vegetable oil, and soybean oil, ethoxylated	Masterlock	●
Misc. Nonionic surfactants	Dyne-Amic, LI-700, LIBERATE	●
Misc. Spreader/Stickers	Cohere, Attach, Tactic	●
Misc. Organosilicone	Silwet L-77	●
Polyalkyleneoxide modified polydimethylsiloxane	Kinetic	●
Yucca (Saponin)	Yucca Agaide, ThermX-70	●

# Fertilizers and Biostimulants

Product Type	Compatibility	Notes
Agra Sol Micro Mix	◆■	
Agra Sol Vegetable Mix	◆■	
Asset RTU (6-20-5 + micros)	◆■	
AWAKEN 3D (16-0-2 + micros)	◆■	
Axilo Ca (10%)	◆■	
BenVireo Calcium	◆■	
BenVireo FoliSentials (3-0-3)	◆■	
BenVireo Multus	◆■	
Bio-Master	◆■	
Black Label Zn (6-20-0 + 0.77Zn)	✘	Found to be compatible after adjusting solution pH to 3.6–3.8 with citric acid
Brandt 30-K	◆■	
Brexil Ca (15% Ca, 5% B)	◆■	
Calcium nitrate	●	
Calcium sulfate	◆■	
CalOx® FT 8-0-0, 10% Ca	●	
Coron (25-0-0 + 0.5B, 25% CRN)	◆■	
Coron (28-0-0, 70% CRN)	◆■	

# Fertilizers and Biostimulants

Product Type	Compatibility	Notes
435 horticultural spray oil (+ 1% emulsifier)	●	
Ele-Max Phos-K-Mag LS (0-29-5)	◆■	
FOLI-GRO CAL-CHLOR	◆■	
FOLI-GRO Ca-Zn	◆■	
Foli-Gro Kilo 0-0-24	◆■	
Foli-Gro N13 (13-0-0)	◆■	
K-Leaf Versa (0-0-29)	◆■	
LOKOMOTIVE (2-0-25)	✘	Found to be compatible after adjusting solution pH to 3.6–3.8 with citric acid
Megafol (3-0-8)	◆■	
Mg Sulfate 9.8%	●	
Mn Sulfate 32%	●	
N-PACT (26-0-0, 33% SRN)	◆■	
Nutrient Express 11-41-8 + kelp	◆■	
NutriSync 3D	✘	Found to be compatible after adjusting solution pH to 3.6–3.8 with citric acid
Radiate	✘	
Reaction (10-3-6)	◆■	
Reaction K DS (5-0-49)	◆■	
Reaction P DS (12-58-0)	◆■	
RE-NFORCE KS (15-0-12 +8S)	◆■	
Riser (7-17-3 + micros)	●	
Stimplex	◆■	
Sea Kelp	◆■	
UAN (28-32)-0-0	●	
Zn Sulfate 35.5%	●	

Key	
Compatible	●
Not Compatible	✘
Jar Test Needed	◆
Phytotoxicity Test Needed	■