



Spray Material Half-Life Chart 2007

Adjusting the pH of the spray solution can reduce spray material decomposition and make the spray more effective.

The following chart shows the Spray Material Half-Life or the time it takes for half the amount of chemical to be decomposed

(made inactive) various pH levels.

Spray Material Product	Buffering	Optimum pH	Half-Life at pH indicated (50% decomposition)					
			9.0 Base	8.0 Base	7.0 Neutral	6.0 Acidic	5.0 Acidic	4.5 Acidic
2,4-D Amine		6.0			Stable at pH 4.5 - 7.0			
ACCLAIM®		6.5				Stable under acidic conditions		
Allethrin		7.0		Stable at pH 6.0 - 8.0				
ALIETTE®		6.0		Stable at pH 4.0-8.0				
ALUDE®		7.0	Stable 5.0 - 9.0					
ARSENAL®		7.0	Stable over wide range of pH					
ASSAIL®		7.0	Stable over wide range of pH					
ATRAZINE		7.0	Decomposes slowly in base solution					
AVENGE®	X	5.0	Decomposes in strong base condition					
AVID®		7.0	Stable over wide range of pH					
BALAN®		7.0	Not effected by pH					
BANNER®		7.0	Stable over wide range of pH					
BANOL®		6.0	Subject to alkaline hydrolysis					
BARRICADE®		7.0	Stable over wide range of pH					
BASAGRAN®		7.0	Stable over wide range of pH					
BAYGON®	X	6.5		Maintain below 8.0				
BAYLETON®		7.0	Stable over wide range of pH					
BRAVO®		7.0	Stable over wide range of pH					
BROADRANGE™		6.5					Avoid pH below 4.0	
CAPTAN®	X	5.0		10 min.	8 hrs.		32 hrs.	
CARZOL®	X	5.0	2 hrs.		23 hrs.		4 days	
CHIPCO® 26019		7.0	Avoid pH greater than 8.0					
CHLORPYRIFOS		7.0		1.5 days	35 days		63 days	
CHOPPER®		7.0	Stable over wide range of pH					
CLEARY 3336®		6.5	Subject to alkaline hydrolysis above 7.5					
CONFIRM®		7.0	Stable over wide range of pH					
CUTLESS®		6.5	Stable over wide range of pH					
DACONIL® Ultrex		7.0	Stable over wide range of pH					
DACONIL® Weatherstik		7.0	Stable over wide range of pH					
DACTHAL®		7.0	Hydrolized in strong acid and alkaline					
DIAZINON		7.0	29 days	3 wks.	10wks.		14 days	8 days
DICOFOL®	X	5.5	1 hr.		5 days		20days	
DIMETHOATE	X	5.0	48 hrs.			12 hrs.		20 hrs.
DIPEL®		6.0	Unstable in pH > 8					
DIQUAT®		6.0				Stable in neutral or acid solutions		
DI-SYSTON®		7.0	Stable over wide range of pH					
DITHANE®	X	5.5	4 hrs.		17 hrs.		20 days	
DURSBAN®		7.0		1.5 days	35 days		63 days	
DYLOX®	X	5.0		63 min.	6.5 hrs.	3.7 days		
EAGLE®		7.0	Stable over wide range of pH					
ECHO®		7.0	Stable over wide range of pH					
EMBARK®		7.0	Keep pH above 5.5					
ENDORSE®		6.5				Most stable below 7.5		
ENDURANCE®		7.0	Stable over wide range of pH					
FLORAMITE® Updated	X	6.5	10 min.		1 hr.	12 hrs.		20 hrs.
FLOREL®	X	5.0	Hydrolized under alkaline conditions					
FORE® Updated 5-03	X	5.5	4 hrs.		17 hrs.		20 days	
FUSILADE®		7.0	17 days		21 wks.			65 wks.



Spray Material Half-Life Chart 2007

Adjusting the pH of the spray solution can reduce spray material decomposition and make the spray more effective.

The following chart shows the Spray Material Half-Life or the time it takes for half the amount of chemical to be decomposed (made inactive) various pH levels.

Spray Material Product	Buffering	Optimum pH	Half-Life at pH indicated (50% decomposition)						
			9.0 Base	8.0 Base	7.0 Neutral	6.0 Acidic	5.0 Acidic	4.5 Acidic	
GALLERY®		7.0	Stable over wide range of pH						
GOAL®		7.0				Stable in neutral pH			
GRAMOXONE®		6.5	Not stable in pH > 7						
HERITAGE®		7.0	> 200 days						
HEXAGON®		7.0	Stable over wide range of pH						
IMIDAN® Updated 12-03	X	5.0		33 min.	1 hrs.	36 hrs.	7 days	13 days	
KELTHANE®	X	5.5	1 hr.		5 days		20days		
KOCIDE®		7.0	Do not lower pH <7.0						
KERB®		6.5				Stable in pH 5.5 - 7.5			
MALATHION	X	5.0	5 hrs.	19 hrs.	3 days	8 days			
MANAGE®		7.0	Stable over wide range of pH						
MANEB® Updated 5-03	X	5.5	4 hrs.		17 hrs.		20 days		
MANZATE®	X	5.5	4 hrs.		17 hrs.		20 days		
MAVRIK®		6.0	1-2 days			30 days		30+ days	
MERIT®		7.0	Stable over wide range of pH						
MESUROL®	X	6.0	Unstable in pH conditions above 6.5						
METASYSTOX R ®	X	6.0	Unstable in alkalis			12 hrs.			
NEMACUR®		7.0	8 days		700 days			40 days	
ORNITE® 6E & 30W		7.0	5 days						
ORTHENE®		7.0	16 days		46 days		40 days		
PENCOZEB®	X	5.5	4 hrs.		17 hrs.		20 days		
PENDIMETHALIN		7.0	Stable over wide range of pH						
PENDULUM®		7.0	Stable over wide range of pH						
PRINCEP®		6.0	24 days				96 days	120 days	
PROTECT®		6.5		8 hrs.	Stable 6.5 - 7.0				
REWARD®		6.0				Stable in neutral or acid solutions			
RODEO®	X	5.5				pH 5.0 - 6.0 optimum			
ROUNDUP®	X	5.5				pH 5.0 - 6.0 optimum			
RUBIGAN®		7.0	Stable over wide range of pH						
SENTRY®		6.0	Stable 5.0 - 9.0						
SEVIN®		7.0	24 hrs	2.5 days	24 days	100 days			
SONAR®			Not effected by pH						
SPECTRO® 90		6.5		4 hrs at 7.5					
SPOTRETE®		6.5		8 hrs.	Stable 6.5 - 7.0				
SUBDUE® MAXX		7.0	Stable over wide range of pH						
SURFLAN®		7.0	Stable over wide range of pH						
SYSTHANE®		7.0	Unaffected by Alkaline Hydrolysis						
TERRACHLOR®	X	5.5	Rapid hydrolysis at pH >7						
TREFLAN®		7.0	Stable over wide range of pH						
TRIFORINE®		7.0	Neutralized in slightly alkaline water						
TRIMEC®		7.0					Avoid pH 5.0 or less		
TRIPLET®	X	5.5				Stable at pH 5.0 - 6.0			
TRISTAR®		6.5				Most stable below 7.5			
TURCAM®		6.0	45 mins.		3 days		48 days		
ULTRAFLORA®		7.0	Stable over wide range of pH						
VELPAR®		7.0	Not effected by pH						
VENDEX®		7.0	Not effected by pH						



Spray Material Half-Life Chart 2007

Adjusting the pH of the spray solution can reduce spray material decomposition and make the spray more effective.

The following chart shows the Spray Material Half-Life or the time it takes for half the amount of chemical to be decomposed (made inactive) various pH levels.

Spray Material Product	Buffering	Optimum pH	Half-Life at pH indicated (50% decomposition)					
			9.0 Base	8.0 Base	7.0 Neutral	6.0 Acidic	5.0 Acidic	4.5 Acidic

**® indicates that the product name listed is the registered trademark of the manufacturer.

**For most pesticides, the optimum pH is in the range of 5.0 - 6.5 (slightly acidic).

**An 'X' in the buffering column denotes that the use of a buffering agent such as TRI-FOL(r) should produce significant agronomic gains.

**Check with the respective manufacturer's label for recommended pH levels. Many factors determine the efficacy of sprays, therefore, it is not possible to guarantee any combination or results accordingly. The following factors are involved with chemical performance: pH; temperature; solubility; concentration; type of agitation; humidity; mixture time in tank; and time of application. The above pH half-life information has been obtained from various manufacturers, universities, and state agricultural sources. Wilbur-Ellis has not tested the above stability levels nor verified the pH half-life ranges, but rather offers the above information as a guideline to address the issue of pH importance to more effective spray application.