

DRAFT

EVALUATION CRITERIA FOR SUBSTANCES ADDED TO THE NATIONAL LIST

Category 1. Adverse impacts on humans or the environment?

Substance Hydrogen Chloride

Question	Yes	No	N/A ¹	Documentation (TAP; petition; regulatory agency; other)
1. Are there adverse effects on environment from manufacture, use, or disposal? [§205.600 b.2]			X	
2. Is there environmental contamination during manufacture, use, misuse, or disposal? [§6518 m.3]	X			Hydrochloric acid (HCl) is potentially very damaging to the environment. It is extremely corrosive. TAP pg 11; produces from organic chlorides and gasoline TAP pg 15
3. Is the substance harmful to the environment? [§6517c(1)(A)(i);6517(c)(2)(A)i]	X			HCl is a strong, relatively reactive acid that can act as a catalyst for multiple reactions. TAP pg 11; “HCl has the potential to damage soil and to harm humans and the environment.” TAP pg 15
4. Does the substance contain List 1, 2, or 3 inerts? [§6517 c (1)(B)(ii); 205.601(m)2]		X		CAS 7647-01-0 (hydrogen chloride) is a List 4b
5. Is there potential for detrimental chemical interaction with other materials used [§6518 m.1]	X			Hydrogen chloride is incompatible with sodium hydroxide (an approved material) TAP pg 8; HCl is a strong, relatively reactive acid and can react with or catalyze reactions with many materials used in organic farming TAP pg 11; not expected when processing cotton seeds if GMP are followed
6. Are there adverse biological and chemical interactions in agro-ecosystem? [§6518 m.5]	X			Hydrogen chloride is incompatible with sodium hydroxide (an approved material) TAP pg 8; HCl is a strong, relatively reactive acid and can react with or catalyze reactions with many materials used in organic farming TAP pg 11; not expected when processing cotton seeds if GMP are followed
7. Are there detrimental physiological effects on soil organisms, crops, or livestock? [§6518 m.5]	X			“HCl has the potential to damage soil” It will dissolve carbonate-based particles found in soil TAP pg 8, 15; soil pH will drop TAP pg 12; not expected when processing cotton seeds
8. Is there a toxic or other adverse action of the material or its breakdown products? [§6518 m.2]	X			HCl is extremely corrosive with the ability to kill any cell that it contacts; carbon dioxide (a by product) can exclude oxygen in a confined air space TAP pg 11, 13; Hazardous by-products form upon decomposition – hydrogen chloride, chlorine, CO, CO ₂ and hydrogen gas.
9. Is there undesirable persistence or concentration of the material or breakdown products in environment? [§6518 m.2]		X		HCl is not persistent. A by-product, CO ₂ can exclude O ₂ in a confined air space TAP pg 11, 13
10. Is there any harmful effect on human health? [§6517 c (1)(A)(i) ; 6517 c(2)(A)i; §6518 m.4]	X			HCl is extremely corrosive can kill any cell that it contacts; CO ₂ (a by-product) can exclude O ₂ in a confined air space TAP pg 11, 13; “HCl has potential to harm humans.” TAP pg 15; can adversely impact humans at high exposure & can cause chemical pneumonia (Ostiguy)
11. Is there an adverse effect on human health as defined by applicable Federal regulations? [205.600 b.3]			X	
12. Is the substance GRAS when used according to FDA’s good manufacturing practices? [§205.600 b.5]			X	
13. Does the substance contain residues of heavy metals or other contaminants in excess of FDA tolerances? [§205.600b.5]			X	

¹If the substance under review is for crops or livestock production, all of the questions from 205.600 (b) are N/A—not applicable.

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Category 2. Is the Substance Essential for Organic Production? Substance Hydrogen Chloride

Question	Yes	No	N/A ¹	Documentation (TAP; petition; regulatory agency; other)
1. Is there a natural source of the substance? [§205.600 b.1]			X	
2. Is there an organic substitute? [§205.600 b.1]			X	
3. Is the substance essential for handling of organically produced agricultural products? [§205.600 b.6]			X	
4. Is there a wholly natural substitute product? [§6517 c (1)(A)(ii)]	X			Lactic and acetic acid might possibly be used but it is not clear if they are efficacious or possibly are deleterious to the seed TAP pg 9, 10, 12, 16; “Both organic acids are weak acids and may have limited ability to weaken the cellulose structure of the lint and allow its easy removal from the seed.” TAP pg. 14
5. Is the substance used in handling, not synthetic, but not organically produced? [§6517 c (1)(B)(iii)]			X	
6. Are there any alternative substances? [§6518 m.6]	X			Lactic and acetic acid might possibly be used but it is not clear if they are efficacious or possibly are deleterious to the seed TAP pg 9, 10, 12, 16; “Both organic acids are weak acids and may have limited ability to weaken the cellulose structure of the lint and allow its easy removal from the seed.” TAP pg. 14
7. Is there another practice that would make the substance unnecessary? [§6518 m.6]	X			Lactic and acetic acid might possibly be used but it is not clear if they are efficacious or possibly are deleterious to the seed TAP pg 9, 10, 12, 16; “Both organic acids are weak acids and may have limited ability to weaken the cellulose structure of the lint and allow its easy removal from the seed.” TAP pg. 14

¹If the substance under review is for crops or livestock production, all of the questions from 205.600 (b) are N/A—not applicable.

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Category 3. Is the substance compatible with organic production practices? Substance Hydrogen Chloride

Question	Yes	No	N/A ¹	Documentation (TAP; petition; regulatory agency; other)
1. Is the substance compatible with organic handling? [§205.600 b.2]			X	
2. Is the substance consistent with organic farming and handling? [§6517 c (1)(A)(iii); 6517 c (2)(A)(ii)]		X		More compatible alternatives have been mention but uncertain about efficacy and seed quality TAP pg 10, 16; Not approved in other organic management standards; is being considered in British Columbia (and Canada) TAP pg 4; Texas Department of Ag did allow, European Union allows as a food additive TAP pg 6
3. Is the substance compatible with a system of sustainable agriculture? [§6518 m.7]		X		More compatible alternatives have been mention but uncertain about efficacy and seed quality TAP pg 10, 16
4. Is the nutritional quality of the food maintained with the substance? [§205.600 b.3]			X	
5. Is the primary use as a preservative? [§205.600 b.4]			X	
6. Is the primary use to recreate or improve flavors, colors, textures, or nutritive values lost in processing (except when required by law, e.g., vitamin D in milk)? [205.600 b.4]			X	
7. Is the substance used in production, and does it contain an active synthetic ingredient in the following categories:				
a. copper and sulfur compounds		X		
b. toxins derived from bacteria;		X		
c. pheromones, soaps, horticultural oils, fish emulsions, treated seed, vitamins and minerals?	X			This treatment removes the lint on cotton seed prior to planting.
d. livestock parasiticides and medicines?		X		
e. production aids including netting, tree wraps and seals, insect traps, sticky barriers, row covers, and equipment cleaners?		X		

¹If the substance under review is for crops or livestock production, all of the questions from 205.600 (b) are N/A—not applicable.

NOSB RECOMMENDED DECISION

Form NOPLIST2. Full Board Transmittal to NOP

For NOSB Meeting: <u> May 2004 </u>	Substance: <u> Hydrogen Chloride </u>																				
<p>A. Evaluation Criteria (Documentation attached; committee recommendation attached)</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 60%;"></td> <td style="text-align: right;">Criteria Satisfied?</td> </tr> <tr> <td>1. Impact on humans and environment</td> <td style="text-align: right;">Yes <input type="checkbox"/> No <input type="checkbox"/> (see B below)</td> </tr> <tr> <td>2. Availability criteria</td> <td style="text-align: right;">Yes <input type="checkbox"/> No <input type="checkbox"/> (see B below)</td> </tr> <tr> <td>3. Compatibility & consistency</td> <td style="text-align: right;">Yes <input type="checkbox"/> No <input type="checkbox"/> (see B below)</td> </tr> </table>			Criteria Satisfied?	1. Impact on humans and environment	Yes <input type="checkbox"/> No <input type="checkbox"/> (see B below)	2. Availability criteria	Yes <input type="checkbox"/> No <input type="checkbox"/> (see B below)	3. Compatibility & consistency	Yes <input type="checkbox"/> No <input type="checkbox"/> (see B below)												
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<p>B. Substance fails criteria?</p> <p>Criteria category: _____</p> <p>Comments: _____</p>	<p>C. Proposed Annotation: _____</p> <p>_____</p> <p>Basis for annotation:</p> <p>To meet criteria above: _____ Criteria: _____</p> <p>Other regulatory criteria: _____ Citation: _____</p>																				
<p>D. Final Board Action & Vote: Motion by: _____ Second: _____</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; padding: 5px;">Vote:</td> <td style="width: 25%; border: 1px solid black; text-align: center;">Agricultural</td> <td style="width: 25%; border: 1px solid black; text-align: center;">Nonagricultural</td> <td style="width: 25%; border: 1px solid black; text-align: center;">Crops</td> <td style="width: 10%; border: 1px solid black; text-align: center;">X</td> </tr> <tr> <td style="padding: 5px;">Yes: _____</td> <td style="border: 1px solid black; text-align: center;">Synthetic</td> <td style="border: 1px solid black; text-align: center;">Not synthetic</td> <td style="border: 1px solid black; text-align: center;">Livestock</td> <td style="border: 1px solid black;"></td> </tr> <tr> <td style="padding: 5px;">No: _____</td> <td style="border: 1px solid black; text-align: center;">Allowed¹</td> <td style="border: 1px solid black; text-align: center;">Prohibited²</td> <td style="border: 1px solid black; text-align: center;">Handling</td> <td style="border: 1px solid black;"></td> </tr> <tr> <td style="padding: 5px;">Abstain: _____</td> <td style="border: 1px solid black; text-align: center;">No restriction</td> <td style="border: 1px solid black; text-align: center;">Deferred⁴</td> <td style="border: 1px solid black; text-align: center;">Rejected³</td> <td style="border: 1px solid black;"></td> </tr> </table> <p style="margin-left: 100px;">1—substance voted to be added as “allowed” on National List</p> <p>Annotation: _____</p> <p style="margin-left: 100px;">2—substance to be added to “prohibited” paragraph of National List</p> <p>Describe why a prohibited substance: _____</p> <p style="margin-left: 100px;">3—substance was rejected by vote for amending National List</p> <p>Describe why material was rejected: _____</p> <p style="margin-left: 100px;">4—substance was recommended to be deferred</p> <p>Describe why deferred; if any follow-up is needed. If follow-up needed, who conducts follow-up. _____</p>		Vote:	Agricultural	Nonagricultural	Crops	X	Yes: _____	Synthetic	Not synthetic	Livestock		No: _____	Allowed ¹	Prohibited ²	Handling		Abstain: _____	No restriction	Deferred ⁴	Rejected ³	
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<p>F. NOP Action: Include in FR to amend National List: <input type="checkbox"/></p> <p>Return to NOSB <input type="checkbox"/> Reason: _____</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border-bottom: 1px solid black; text-align: center;">Richard H. Mathews, Program Manager</td> <td style="width: 50%; border-bottom: 1px solid black; text-align: center;">Date</td> </tr> </table>		Richard H. Mathews, Program Manager	Date																		
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NOSB COMMITTEE RECOMMENDATION

Form NOPLIST1. Committee Transmittal to NOSB

For NOSB Meeting: <u>April 2004</u>	Substance: <u>Hydrogen Chloride</u>																																
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