

**NOSB NATIONAL LIST
FILE CHECKLIST**

LIVESTOCK

MATERIAL NAME: #5 Electrolytes



NOSB Database Form



References



MSDS (or equivalent)



TAP Reviews from: William Zimmer, Marta Engel, and Lynn Brown

**NOSB/NATIONAL LIST
COMMENT FORM
LIVESTOCK**

Material Name: #5 Electrolytes

Please use this page to write down comments, questions, and your anticipated vote(s).

COMMENTS/QUESTIONS:

1. In my opinion, this material is:
_____ Synthetic _____ Non-synthetic.

2. This material should be placed on the proposed National List as:
_____ Prohibited Natural _____ Allowed Synthetic.

TAP REVIEWER COMMENT FORM for USDA/NOSB

Use this page or an equivalent to write down comments and summarize your evaluation regarding the data presented in the file of this potential National List material. Complete both sides of page. Attach additional sheets if you wish.

This file is due back to us by: Sept 5, 1995

Name of Material: Electrolytes

Reviewer Name: William Zimmer D.V.M.

Is this substance Synthetic or non-synthetic? Explain (if appropriate)

Synthetic

If synthetic, how is the material made? (please answer here if our database form is blank)

physical mixing of both natural (NaCl, salt) and synthetically produced (KCl, potassium bicarbonate; etc) compounds into ratios necessary.

This material should be added to the National List as:

Synthetic Allowed Prohibited Natural

or, Non-synthetic (This material does not belong on National List)

Are there any use restrictions or limitations that should be placed on this material on the National List?

May not contain anti biotics. Documentation of disease process treatment protocol in which the electrolyte was included.

Please comment on the accuracy of the information in the file:

Any additional comments? (attachments welcomed)

Do you have a commercial interest in this material? Yes; No

Signature William A. Zimmer D.V.M. Date 9-7-95

**Please address the 7 criteria in the Organic Foods Production Act:
(comment in those areas you feel are applicable)**

- (1) the potential of such substances for detrimental chemical interactions with other materials used in organic farming systems;

None

- (2) the toxicity and mode of action of the substance and of its breakdown products or any contaminants, and their persistence and areas of concentration in the environment;

N/A

- (3) the probability of environmental contamination during manufacture, use, misuse or disposal of such substance;

N/A

- (4) the effect of the substance on human health;

N/A

- (5) the effects of the substance on biological and chemical interactions in the agroecosystem, including the physiological effects of the substance on soil organisms (including the salt index and solubility of the soil), crops and livestock;

N/A

- (6) the alternatives to using the substance in terms of practices or other available materials; and

*Home remedy of salt, low sodium salt (potassium chloride),
Baking soda (sodium bicarbonate), corn syrup (glucose), etc.*

*All of these products are purchased so there is no difference
which one is used other than convenience and professional formula.*

- (7) its compatibility with a system of sustainable agriculture.

Compatible

TAP REVIEWER COMMENT FORM for USDA/NOSB

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This file is due back to us by: Sept. 5, 1995

Name of Material: Electrolytes

Reviewer Name: MARTA W. ENGEL, D.V.M.

Is this substance Synthetic or non-synthetic? Explain (if appropriate)

Both: Can be made from common household

If synthetic, how is the material made? (please answer here if our database form is blank)

Ingredients like corn syrup, salt and baking soda, salt, baking soda, and potassium chloride (powder) & dextrose powder are mixed in special formulas for calf electrolytes - given orally. There are also IV electrolytes that sometimes contain preservatives such as methyl paraben.

This material should be added to the National List as:

Synthetic Allowed

Prohibited Natural

or, Non-synthetic (This material does not belong on National List)

Are there any use restrictions or limitations that should be placed on this material on the National List? NO

Please comment on the accuracy of the information in the file:

no comment

Any additional comments? (attachments welcomed)

Do you have a commercial interest in this material? Yes; No

Signature Marta W Engel DVM Date 9/7/95

**Please address the 7 criteria in the Organic Foods Production Act:
(comment in those areas you feel are applicable)**

- (1) the potential of such substances for detrimental chemical interactions with other materials used in organic farming systems;

Not very likely. Humans use almost identical formulations for oral electrolyte replacement

- (2) the toxicity and mode of action of the substance and of its breakdown products or any contaminants, and their persistence and areas of concentration in the environment;

Not likely to be a problem

- (3) the probability of environmental contamination during manufacture, use, misuse or disposal of such substance;

Not a problem.

- (4) the effect of the substance on human health;

Not a problem.

- (5) the effects of the substance on biological and chemical interactions in the agroecosystem, including the physiological effects of the substance on soil organisms (including the salt index and solubility of the soil), crops and livestock;

Absorbed by the body. Not likely to ever become a problem for the environment. Small amounts that are not absorbed, would be excreted in urine & feces but would not be harmful.

- (6) the alternatives to using the substance in terms of practices or other available materials; and

as mentioned before many of these substances used for electrolyte replacement are common kitchen / household items. i.e. baking soda, salt, water etc.

- (7) its compatibility with a system of sustainable agriculture.

YES

TAP REVIEWER COMMENT FORM for USDA/NOSB

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This file is due back to us by: Sept 5, 1995

Name of Material: Electrolytes

Reviewer Name: Lynn Brown

Is this substance Synthetic or non-synthetic? Explain (if appropriate)

Synthetic

If synthetic, how is the material made? (please answer here if our database form is blank)

This material should be added to the National List as:

Synthetic Allowed Prohibited Natural

or, Non-synthetic (This material does not belong on National List)

Are there any use restrictions or limitations that should be placed on this material on the National List?

NO

Please comment on the accuracy of the information in the file:

Information is accurate

Any additional comments? (attachments welcomed)

Do you have a commercial interest in this material? Yes; No

Signature Lynn R Brown Date 8/31/95

Please address the 7 criteria in the Organic Foods Production Act:
(comment in those areas you feel are applicable)

- (1) the potential of such substances for detrimental chemical interactions with other materials used in organic farming systems;

None

- (2) the toxicity and mode of action of the substance and of its breakdown products or any contaminants, and their persistence and areas of concentration in the environment;

None

- (3) the probability of environmental contamination during manufacture, use, misuse or disposal of such substance;

None

- (4) the effect of the substance on human health;

Proper use of electrolytes in animal production will have no effect on human health and can be very beneficial to animal health.

- (5) the effects of the substance on biological and chemical interactions in the agroecosystem, including the physiological effects of the substance on soil organisms (including the salt index and solubility of the soil), crops and livestock;

None

- (6) the alternatives to using the substance in terms of practices or other available materials; and

No available alternative

- (7) its compatibility with a system of sustainable agriculture.

The use of electrolyte is compatible with sustainable agriculture.

Identification

Common Name **Electrolytes** **Chemical Name**
Other Names
Code #: CAS **Code #: Other**
N. L. Category Synthetic Allowed **MSDS** No

Chemistry

Family
Composition Often contains Sodium chloride, potassium chloride, sodium bicarbonate and glucose. Can contain other minerals and sugars.
Properties
How Made

Use/Action

Type of Use Livestock
Use(s) Health Care. Used to prevent or treat dehydration with resulting loss of minerals.
Action Helps to rehydrate, while providing minerals and sugars lost in the dehydration.
Combinations works best when combined with plasma infusions.

Status

OFPA
N. L. Restriction Category 1
EPA, FDA, etc Considered to be New Animal Drugs; however regulatory discretion is being exercised provided the only claim is as a source of nutrients.
Safety Guidelines **Directions**
Registration **State Differences**
Historical status
International status

OFPA Criteria

2119(m)1: chemical interactions

2119(m)2: toxicity & persistence

2119(m)3: manufacture & disposal consequences

2119(m)4: effect on human health

2119(m)5: agroecosystem biology

2119(m)6: alternatives to substance

2119(m)7: Is it compatible?

References

Black's Veterinary Dictionary, 16th edition, 1988. Geoffrey P. West ed.; Barnes and Noble Books, Totoway, NJ

See also attached.

ELECTROLYTES REFERENCES

AU: Simmons,-R.D.; Bywater,-R.J.

TI: Oral rehydration in the management of neonatal diarrhea in livestock.

SO: Compend-Contin-Educ-Pract-Vet. Trenton, N.J. : Veterinary Learning Systems Company. Feb 1991. v. 13 (2) p. 345-348, 350.

CN: DNAL SF601.C66

AU: Mackay,-W.C.

TI: Electrolytes sodium, potassium and chloride, biological activity in animals including livestock and arthropods.

SO: Comp-Anim-Nutr. Basel, Karger 1979. v. 3 p. 80-99. ill.

CN: DNAL SF95.A1C6

AU: Heath,-S.E.

TI: Neonatal diarrhea in calves: investigation of herd management practices.

SO: Compend-Contin-Educ-Pract-Vet. Trenton, N.J. : Veterinary Learning Systems Company, Inc. Mar 1992. v. 14 (3) p. 385-388, 390-395.

CN: DNAL SF601.C66

AU: Murphy,-G.M.; St-George,-T.D.; Guerrini,-V.; Collins,-R.G.; Broadmeadow,-A.C.; Uren,-M.F.; Doolan,-D.L.

TI: Trace element and macro electrolyte behaviour during inflammatory diseases in cattle and sheep.

SO: Trace elements in man and animals 6 / edited by Lucille S. Hurley, ... [et al.]. New York : Plenum Press, c1988. p. 403-404.

CN: DNAL QP534.I5-1987

AU: Apple,-J.K.; Minton,-J.E.; Parsons,-K.M.; Unruh,-J.A.

TI: Influence of repeated restraint and isolation stress and electrolyte administration on pituitary-adrenal secretions, electrolytes, and other blood constituents of sheep.

SO: J-Anim-Sci. Champaign, Ill. : American Society of Animal Science. Jan 1993. v. 71 (1) p. 71-77.

CN: DNAL 49-J82

AB: Crossbred lambs (n = 24) were blocked by weight and assigned within blocks to four treatments applied in two replications of a 2 X 2 factorial arrangement. Main effects included no stress (NS) or three consecutive days of restraint and isolation stress (RIS) and treatment with either water (W) or an electrolyte (E) solution. Stressed lambs had lower (P < .05) serum calcium and alkaline phosphatase concentrations than did NS lambs. Serum glutamic oxaloacetic transaminase was increased (P < .05) 20- to 30-fold in RIS lambs. Restraint and isolation stress caused clear increases in plasma concentrations of ACTH, cortisol, lactate, and glutamic oxaloacetic transaminase but had minimal effects on serum electrolytes. Electrolyte treatment had no appreciable effect on pituitary-adrenal secretions or any other measured component of blood.

AU: Romatowski,-J.

TI: Use of oral fluids in acute gastroenteritis in small animals.

SO: Mod-Vet-Pract. Santa Barbara, Calif. : American Veterinary Publications. Apr 1985. v. 66 (4) p. 261-263.

CN: DNAL 41.8-N812

AU: Haupt,-T-R

TI: Water, electrolytes, and acid-base balance. [Animal physiology]

SO: In Dukes, H. H. Dukes' Physiology Of Domestic Animals. Ed. 8, 1970, p. 743-766.

CN: DNAL SF768.D8-1970

