NOSB NATIONAL LIST
FILE CHECKLIST

LIVESTOCK

MATERIAL NAME: **Aspirin**

CATEGORY: Synthetic Allowed **Complete?:** _____

✓ **NOSB Database Form**

✓ **References**

✓ **MSDS** (or equivalent)

_____ **Date file mailed out:** 9/22/94

✓ **TAP Reviews from:** William Zimmer
Marta Engel

_____ **Supplemental Information:**

MISSING INFORMATION: _____

NOSB/NATIONAL LIST COMMENT FORM/BALLOT

Use this page to write down comments and questions regarding the data presented in the file of this National List material. Also record your planned opinion/vote to save time at the meeting on the National List.

Name of Material Aspirin

Type of Use: ____ **Crops;** ✓ **Livestock;** ____ **Processing**

TAP Review by:

1. William Zimmer DVM
2. Marta Engel DVM
3. _____

Comments/Questions:

My Opinion/Vote is:

Signature _____ **Date** _____

USDA/TAP REVIEWER COMMENT FORM

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. Attach additional sheets if you wish.

This file is due back to us within 30 days of: Sept 22

Name of Material: Aspirin

Reviewer Name: William A. Zimmer D.V.M.

Is this substance Natural or Synthetic? Explain (if appropriate)
Synthetic

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

This material should be added to the National List as:

✓ **Synthetic Allowed** ____ **Prohibited Natural**

or, ____ **This material does not belong on the National List because:**

Are there any restrictions or limitations that should be placed on this material by use or application on the National List? For animal use under veterinary supervision for short term control of inflamation and body temperature. Documentation of dosage and duration of treatment should be required. Suggest a 3 day milk ~~ne~~ withdrawal and 30 day meat withdrawal after cessation of treatment.

Any additional comments or references?

Signature William A. Zimmer DVM **Date** 3/13/95

USDA/TAP REVIEWER COMMENT FORM

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. Attach additional sheets if you wish.

This file is due back to us within 30 days of: Sept. 22

Name of Material: Aspirin

Reviewer Name: MARTA W. ENGEL, DVM

Is this substance Natural or Synthetic? Explain (if appropriate)

Synthetic

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

ok to the best of my knowledge.

This material should be added to the National List as:

✓ **Synthetic Allowed** ____ **Prohibited Natural**

or, ____ **This material does not belong on the National List because:** Very biodegradable. Byproduct similar to naturally occurring compounds in nature. Shouldn't be a problem for human health

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

Any additional comments or references?

Signature Marta W. Engel DVM **Date** 10/24/94

I found out the following information from Mary Thomas, aspirin specialist, at Dow Chemical Company (517) 636-1000:

Aspirin is made from orthohydroxybenzoic acid that is acetylated with acetic anhydride.

Salicylic acid is naturally occuring in willow and bridal wreath (Spirea) as the glucoside Salicin. When hydrolyzed you get acetylsalicylic acid. It has been used since 1750's to treat arthritis by using the plant isolates

Aspirin is used as a standard of biodegradation. It is eliminated within 8 hrs in the urine as salicylic acid. The 1/2 life in blood is 1/2 hr.

Aspirin → salicylic acid → standard of biodegradation → rapidly degraded.

Aspirin is a monographed material. It must meet U.S.P. standards of manufacture.

ie: Aspirin U.S.P. is a legal entity.

It is labeled for use in cattle on brands that I carry in my veterinary practice.

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Aspirin is used as a standard of biodegradation. It is eliminated within 8 hrs in the urine as salicylic acid. The ½ life in blood is ½ hr.

Aspirin → salicylic acid → standard of biodegradation → rapidly degraded.

Aspirin is a monographed material. It must meet U.S.P. standards of manufacture,

ie: Aspirin U.S.P. is a legal entity.

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NOSB Materials Database

4.

Identification

Common Name **Aspirin** **Chemical Name** Acetylsalicylic Acid

Other Names

Code #: CAS 50-78-2 **Code #: Other** NIOSH # VO0700000

N. L. Category Synthetic Allowed

Chemistry

Composition 2-$CH_3COOC_6H_4COOH$ **Family**

Properties White crystalline powder with a slight characteristic odor. Boiling point 140 C, Melting point 133 C, specific gravity 1.40. Slight solubility.

How Made Raw material made in China, Poland, Mexico and Dow Chemical. Compounded into boluses by various Animal Health companies in the U>S> Also made in France, Spain and Turkey. Made from orthohydroxy benxoic acid that is acetylated with acetic anhydride.

Use/Action

Type of Use Livestock

Use(s) Health care. To decrease inflammation and lower body temperature in fevers.

Action Inhibits the production of Prostaglandins by inhibiting the enzyme, cyclo-oxygenase, that biosynthesizes prostaglandin.

Combinations

Status

OFPA 2118 (c) (1) (B)(i) synthetic on exemption list as medication

N. L. Restriction Category 2: TAP review before National List

EPA, FDA, etc FDA: new animal drug requiring NADE when intended for use in animals?

Registration Registered for cattle: Animal Health Associates, 240 grain aspirin.

Directions

Safety Guidelines Caution - may cause irritation

State Differences

Historical status Plant isolates in use since the 1750's.

Internationl status

OFPA Criteria

2119(m)1:chem. inter. none known.

2119(m)2: toxicity Rapidly biodegrades.

2119(m)3:manufacture Not likely to be a problem. Rapidly degrades to salycylic acid which is naturally occurring in nature. (ME)

2119(m)4:humans LD50 (Oral - Rat)(Mg/Kg) - 1000, LD50 (Oral - Mouse)(Mg/Kg) - 815, LD50 (IPR - Rat)(Mg/Kg) - 390. No carcinogenicity shown. Dust may irritate eyes. Eliminated within 8 hours in the urine as salycylic acid.

2119(m)5: biology Not likely to be a problem. Only small amounts are used. No major impact likely. (ME)

2119(m)6:alternatives Appropriate homeopathic medicines relative to the specific complaint and symptoms.

2119(m)7:compatible

References

Kyavu,-N.; Ansay,-M., "Posology and toxicity of aspirin in domestic animals." Posologie et toxicite de l'aspirine chez les animaux domestiques. Ann-Med-Vet. Bruxelles : Corps enseignant de la faculte de medicine veterinaire, Universite de Liege. Oct 1982. v. 126 (6) p. 493-497. CN: DNAL 41.8-AN78, LA: French

Anderson,-J.G.; Oehme,-F.W.; Moore,-W.E. "The effect of oral salicylate (aspirin) on hematologic and biochemical profiles of dairy cattle." VM-SAC-Vet-Med-Small-Anim-Clin. Bonner Springs, Kan., Veterinary Medicine Publishing Co. Sept 1979. v. 74 (9) p. 1329-1332. ill. CN: DNAL 41.8-M69

Gingerich,-A; Baggot,-J-D; Yeary,-R-A "Pharmacokinetics and dosage of aspirin in cattle". J-Am-Vet-Med-Assoc, Nov 15, 1975, 167 (10): 945-948. Ref. CN: DNAL 41.8-AM3

MSDS for ASPIRIN

1 - PRODUCT IDENTIFICATION

PRODUCT NAME: ASPIRIN
FORMULA: 2-CH3COOC6H4COOH FORMULA WT: 180.16
CAS NO.: 50-78-2 NIOSH/RTECS NO.: VO0700000
COMMON SYNONYMS: ACETYLSALICYLIC ACID
PRODUCT CODES: 0033
EFFECTIVE: 06/30/86 REVISION #02

PRECAUTIONARY LABELLING BAKER SAF-T-DATA(TM) SYSTEM

HEALTH - 1 SLIGHT
FLAMMABILITY - 1 SLIGHT
REACTIVITY - 0 NONE
CONTACT - 1 SLIGHT
HAZARD RATINGS ARE 0 TO 4 (0 = NO HAZARD; 4 = EXTREME HAZARD).

LABORATORY PROTECTIVE EQUIPMENT
SAFETY GLASSES; LAB COAT

PRECAUTIONARY LABEL STATEMENTS
CAUTION
MAY CAUSE IRRITATION
DURING USE AVOID CONTACT WITH EYES, SKIN, CLOTHING. WASH THOROUGHLY AFTER HANDLING. WHEN NOT IN USE KEEP IN TIGHTLY CLOSED CONTAINER.

SAF-T-DATA(TM) STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

2 - HAZARDOUS COMPONENTS

COMPONENT	%	CAS NO.
ACETYLSALICYLIC ACID	90-100	50-78-2

3 - PHYSICAL DATA

BOILING POINT: 140 C (284 F) VAPOR PRESSURE(MM HG): N/A

MELTING POINT: 133 C (271 F) VAPOR DENSITY(AIR=1): N/A

SPECIFIC GRAVITY: 1.40 (H2O=1) EVAPORATION RATE: N/A (BUTYL ACETATE=1)

SOLUBILITY(H2O): SLIGHT (0.1 TO 1 %) % VOLATILES BY VOLUME: 0

APPEARANCE & ODOR: WHITE CRYSTALLINE POWDER WITH A SLIGHT CHARACTERISTIC ODOR.

7.

4 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP: N/A

FLAMMABLE LIMITS: UPPER - N/A % LOWER - N/A %

FIRE EXTINGUISHING MEDIA
USE WATER SPRAY, CARBON DIOXIDE, DRY CHEMICAL OR ORDINARY FOAM.

SPECIAL FIRE-FIGHTING PROCEDURES
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE.

TOXIC GASES PRODUCED
CARBON MONOXIDE, CARBON DIOXIDE

5 - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): 5 MG/M3 (PPM)

TOXICITY: LD50 (ORAL-RAT)(MG/KG) - 1000
LD50 (ORAL-MOUSE)(MG/KG) - 815
LD50 (IPR-RAT)(MG/KG) - 390

CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

EFFECTS OF OVEREXPOSURE: DUST MAY IRRITATE EYES.

TARGET ORGANS: NONE IDENTIFIED

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NONE IDENTIFIED

ROUTES OF ENTRY: NONE INDICATED

EMERGENCY AND FIRST AID PROCEDURES
INGESTION: IF SWALLOWED AND THE PERSON IS CONSCIOUS, IMMEDIATELY GIVE LARGE AMOUNTS OF WATER. GET MEDICAL ATTENTION.
INHALATION: IF A PERSON BREATHES IN LARGE AMOUNTS, MOVE THE EXPOSED PERSON TO FRESH AIR. GET MEDICAL ATTENTION.
EYE CONTACT: IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION.
SKIN CONTACT: IMMEDIATELY WASH WITH PLENTY OF SOAP AND WATER FOR AT LEAST 15 MINUTES.

6 - REACTIVITY DATA

STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: MOISTURE

DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE

7 - SPILL AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SUITABLE PROTECTIVE CLOTHING. CAREFULLY SWEEP UP AND REMOVE.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

8 - PROTECTIVE EQUIPMENT

VENTILATION: USE ADEQUATE GENERAL OR LOCAL EXHAUST VENTILATION TO KEEP FUME OR DUST LEVELS AS LOW AS POSSIBLE.

RESPIRATORY PROTECTION: RESPIRATORY PROTECTION REQUIRED IF AIRBORNE CONCENTRATION EXCEEDS TLV. AT CONCENTRATIONS ABOVE 5 MG/M3, A DUST/MIST RESPIRATOR IS RECOMMENDED.

EYE/SKIN PROTECTION: SAFETY GLASSES WITH SIDESHIELDS, PROPER GLOVES ARE RECOMMENDED.

9 - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA(TM) STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

SPECIAL PRECAUTIONS
KEEP CONTAINER TIGHTLY CLOSED. SUITABLE FOR ANY GENERAL CHEMICAL STORAGE AREA.

10 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)
PROPER SHIPPING NAME CHEMICALS, N.O.S. (NON-REGULATED)

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME CHEMICALS, N.O.S. (NON-REGULATED)