

Bill as Introduced

SB 55-FN - AS INTRODUCED

2011 SESSION

11-0613

06/04

SENATE BILL *55-FN*

AN ACT requiring certain engine coolants and antifreeze to include an aversive agent so that they are rendered unpalatable.

SPONSORS: Sen. Odell, Dist 8; Sen. Bradley, Dist 3; Sen. Merrill, Dist 21; Rep. Bettencourt, Rock 4; Rep. Reagan, Rock 1; Rep. Lovett, Sull 4

COMMITTEE: Energy and Natural Resources

ANALYSIS

This bill requires the addition of an aversive agent to certain engine coolants to render them unpalatable.

Explanation: Matter added to current law appears in *bold italics*.
Matter removed from current law appears ~~(in brackets and struck through)~~.
Matter which is either (a) all new or (b) repealed and reenacted appears in regular type.

STATE OF NEW HAMPSHIRE

In the Year of Our Lord Two Thousand Eleven

AN ACT requiring certain engine coolants and antifreeze to include an aversive agent so that they are rendered unpalatable.

Be it Enacted by the Senate and House of Representatives in General Court convened:

1 1 Purpose. This act provides that:

2 I. Certain engine coolant and antifreeze must contain an aversive agent (denatonium
3 benzoate) to render it unpalatable.

4 II. Antifreeze manufacturers are liable for ethylene glycol antifreeze.

5 III. Denatonium benzoate manufacturers are liable for denatonium benzoate when included
6 in antifreeze in the range prescribed by this act.

7 IV. Antifreeze manufactures are liable for denatonium benzoate when used in any manner
8 that is incongruous with the requirements of this act.

9 V. A penalty for noncompliance with the requirements of this act.

10 2 New Section; Sale of Engine Coolants and Antifreeze. Amend RSA 644 by inserting after
11 section 8-f the following new section:

12 644:8-g Sale of Engine Coolants and Antifreeze.

13 I. No person may sell or offer to sell in this state any engine coolant or antifreeze that is
14 manufactured after October 11, 2011 and contains more than 10 percent ethylene glycol unless it
15 includes denatonium benzoate at a minimum of 30 parts per million and a maximum of 50 parts per
16 million as a bittering agent within the product so as to render it unpalatable.

17 II.(a) Subject to subparagraph (b), a manufacturer, processor, distributor, recycler, or seller
18 of an engine coolant or antifreeze that is required to contain an aversive agent under paragraph I
19 shall not be liable to any person for any personal injury, death, property damage, damage to the
20 environment (including natural resources), or economic loss that results from the inclusion of
21 denatonium benzoate in any engine coolant or antifreeze, provided that the inclusion of denatonium
22 benzoate is present in concentrations mandated by paragraph I.

23 (b) The limitation on liability provided in subparagraph (a) shall not apply to a
24 particular liability to the extent that the cause of such liability is unrelated to the inclusion of
25 denatonium benzoate in any engine coolant or antifreeze.

26 (c) The limitation on liability in subparagraph (a) shall not be interpreted to provide any
27 limitation on liability in the case of gross negligence or wanton or willful misconduct.

28 III. This section shall not apply to:

29 (a) The sale of a motor vehicle that contains engine coolant or antifreeze.

30 (b) Wholesale containers containing 55 gallons or more of engine coolant or antifreeze.

31 IV. Any person who knowingly violates this section shall be guilty of a class B misdemeanor.

32 3 Effective Date. This act shall take effect January 1, 2012.

LBAO
11-0613
01/10/11

SB 55-FN - FISCAL NOTE

AN ACT requiring certain engine coolants and antifreeze to include an aversive agent so that they are rendered unpalatable.

FISCAL IMPACT:

The Judicial Branch states this bill may increase state general fund expenditures by an indeterminable amount in FY 2012 and each year thereafter. This bill will have no fiscal impact on state, county, and local revenues or county and local expenditures.

METHODOLOGY:

The Judicial Branch states this bill adds RSA 644:8-g, dealing with the sale of engine coolants and antifreeze and makes it a class B misdemeanor to knowingly violate this proposed new statute. The Branch has no information on how many new cases will be brought as a result of this bill. The Branch does have information on the average cost of processing a class B misdemeanor. The Branch states the cost for a class B misdemeanor is \$43.58 in FY 2012 and \$44.34 in FY 2013 and each year thereafter. The possibility of appeals increases the likelihood the fiscal impact on the Branch will exceed \$10,000.

The Judicial Council states there is no right to counsel for a class B misdemeanor; therefore the proposed legislation has no fiscal impact on the Judicial Council.

The New Hampshire Association of Counties states individuals convicted of a class B misdemeanor may be fined but will not be incarcerated; therefore the proposed legislation has no fiscal impact on the counties.

Speakers

Hearing Minutes

HOUSE COMMITTEE ON SCIENCE, TECHNOLOGY AND ENERGY

PUBLIC HEARING ON SB 55-FN

BILL TITLE: requiring certain engine coolants and antifreeze to include an aversive agent so that they are rendered unpalatable.

DATE: 4-5-11

LOB ROOM: 304 **Time Public Hearing Called to Order:** 1300

Time Adjourned: 1420

(please circle if present)

Committee Members: Reps. Garrity, Holden, Introne, Cataldo, Devine, Remick, Rappaport, Cox, MacMahon, O'Connor, Panek, Parison, Summers, Kaen, Call-Pitts, Read, Levasseur and Pastor.

Bill Sponsors: Sens. Odell, Bradley, Merrill and Reps. Bettencourt, Reagan and Lovett

TESTIMONY

* Use asterisk if written testimony and/or amendments are submitted.

Sen. Jeb Bradley, co-sponsor – Standing in for Sen. Odell, prime sponsor. Passed the Senate twice; simple bill and passed in many states. Anti-freeze as we know for animals is sweet and tasty. By adding the ingredients described in this bill we are being mandated to add to this product. And is a good exemption for the manufacturers. Amendment was added "line 29".

Q: Rep. Laurence Rappaport – Does the additive to the anti-freeze change the product?

A: Not that I am aware of.

Q: Rep. Frank Holden – Are some of the manufacturers already doing this?

A: Not sure!

***Sean Moore, Consumer Specialty Products Assn. (CSPA)** – Supports the bill.

Q: Rep. William Panek – You mentioned at least 10 deaths were intentional?

A: May have – shuts down the kidneys.

Q: Chairman Jim Garrity – Where would this process of blending take place?

A: At the anti-freeze manufacturers.

Q: Rep. Panek – Any price change would be added?

A: Two to three cents per gallon.

Q: Rep. Jacqueline Cali-Pitts – We seem to get this same question years ago.

A: It has been liability issues that were the problem.

Q: Rep. Robert Introne - Ten deaths does not seem to be a reason to add.

A: Some manufacturers do not request that it be used.

Q: Rep. Beatriz Pastor – How about shops that have 55 gallon drums?

A: Origins of the amendment that shops that may not have access to it.

Q: Chairman Garrity – Massachusetts and New Hampshire have different requirements?

A: 35 states do not have this product and these two do not. I would have preferred this would be addressed at the federal level.

Q: Rep. Cali-Pitts – We talk about consumer cost and I would look at what's in it.

A: I can't speak to the manufacture.

***Bill Woodbury, lawyer with NH Automobile Assn. (NHAS)** – Opposed to the bill. See handouts #2, 2a and 2b. Not sound policy to ingest – refer to Material Safety Data Sheet (MSDS). Bill was not past at the federal level is what happens if it goes into our water supply and why do the manufacturers want immunity; i.e. referenced impact of this agent into anti-freeze.

Q: Rep. Cali-Pitts – How would you determine which would cause the death of a person?

A: No answer –cause both may have been and the current condition is not liable the way this bill is written.

Q: Rep. Panek – The MSDS sheet says eye irritant better than deaths.

A: There is no hard fact and the 5th reason I presented the data sheet. The real focus is preventing injury to our children.

Q: Rep. Sean Cox – Is this used in NAL police and been around for decades?

A: Even with the additive in nail polish.

Q: Rep. Holden - The color is added to make it green – it's clear.

A: Not aware of it.

Q: Rep. Pastor – The bitter agents in adding it has no issue?

A: We are asking that a new product by adding and the immunity to the manufacture be addressed and why we oppose this bill.

Q: Rep. Naida Kaen – If this product did not prove safe would it work?

A: The chemical being added is not the ingestion but the immunity. And those states that have past some similar wording.

Q: Rep. Cox – Safety data sheet – page 4 the contents would be more dangerous than the additive?

A: We have no idea on what the results would be in it was biodegradable. We don't have enough data, i.e. the feds did not pass.

Q: Rep. William Remick - Other countries?

A: Cannot speak to that directly.

***Joanne Bourbeau, Humane Society of the United States** – Supports the bill. See handout #3 & 3a.

Q: Chairman Garrity – 1 teaspoon seems like a very small amount. Is it too late once the cat licks it up and have studies been done?

A: Not aware of.

Q: Rep. Rappaport – In your testimony like a radiator leaking on the ground – would that be the same?

A: This bill is a compromise and coincides with the sponsors.

Q: Chairman Garrity – Would you know the total volume used?

A: I don't know.

Q: Rep. Cali-Pitts – In California a report states that no problems with water sources found.

A: Not aware of report.

Honorable Bob Clegg, NH Assn. of Justice – Opposes the bill. Sometimes this has passed and never passes the House and our Senate. We are and must be aware of MTBE and who is liable. HESS says that we are not obligated and you HESS corporations and does the state has the right of what happens on my property? Read Line 19 and immunity is not in my book because I have not recourse when either side will not take on the problem. Why mandate and then give me immunity? We are not getting anywhere except immunity. The history is not mixing the two; is a problem and want immunity.

Q: Rep. Cali-Pitts – Right now! Anti-freeze is toxic.

A: Any amount is toxic and there should be some responsibility.

Q: Rep. Pastor – Who made the formula, i.e. parts per million (PPM).

A: The industry researches.

Maureen Raiche Manning from Manchester representing self – Opposes the bill. Concerned about immunity-which has a cause and effect. No data or studies presented and that is disturbing

and not gives you immunity without any data. Have clients who had wells contaminated – all depends on these facts. And protecting wildlife is all they seem concerned about. Did some research – impact on anti-freeze & suicides? An additive to add any bitter agent will not stop a person from committing suicide. This body/committee from the past has always been fair.

Q: Rep. Remick - Do or does this manufacturer share liability?

A: Do not have any evidence showing immunity by willing to sell it.

Q: Rep. Cali-Pitts – Would federal government pass it?

A: We do not know impact and I am aware they have not.

Q: Rep. Panek – Not sure why are being sold in 14 other states and any problems.

A: We have limited knowledge and why the immunity clause.

Q: 55 gallon drums – my animals I can replace – my children are my main concern.

A: The article and conclusion in the handout about pediatrics. It does not help according to the study.

Q: Rep. Pastor – This same article has many questionable and so many disclaimers.

A: All we can rely on what the limitations-pass the bill and give us immunity.

Blue sheet: 7 for and 2 against.

Respectfully Submitted:



Sam A. Cataldo, Clerk

HOUSE COMMITTEE ON SCIENCE, TECHNOLOGY AND ENERGY

PUBLIC HEARING ON SB 55-FN

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Bill Sponsors: Sens. Odell, Bradley, Merrill and Reps. Bettencourt, Reagan and Lovett

TESTIMONY

* Use asterisk if written testimony and/or amendments are submitted.

1 - Sen Bradley... ^{sub by} sub'g for Sen O'dell - pass the senate twice - simple Bill + passed in many states. Anti-freeze as we know for animals is smart and safe. By adding the ingredients described in this Bill we are being mandated to add to this product, and is a good exemption for the manufacturers. ~~was added~~ was added "fish oil"

Rappaport

Q) Does the addition to the anti freeze charge the products
A) not that I am not aware of.

Holden

Q) Are some of the manufacturers already doing this
A) not sure!

② 2- See more attachment ①
"CSPA" - Consumer Specialty Products Association

Rep Panch Q) you mentioned at least 10 deaths were intentional.

A) may have - shut down the kidneys

Rep Gandy Q) where would this process of blending take place

A) at the anti-freeze manufacturers

Rep Panch Q) any price change would be added

A) 2-3 cents / gallon.

Rep Cali-Pitts. Q) we seem to get this some question yes or no

→ A) it has been our liability were the issues

Rep Irvine - Q) 10 deaths does not seem to be a reason to act

A) some manufacturers do not request that it be used

Rep Pastern - Q) how about shops that have 55 gal drums.

A) origin of the amendment that shops that may not have access to it

Rep. Garity

Q) many NH have different requirements
At 35 states do not have this product
and these two do not. I would
have preferred this would be
addressed @ the federal level.

Rep. ...

Q) we talk about consumer cost
and I would look @ what's
in it.

A) I can't speak to the manufacturer

Bill Wood - Handouts (2) (2a) (2b)
↳ lawyer - NHAS?

- not sound policy to ingest - refer to
MDS - Bill was not past @ Federal
level is what happens if it goes into
our water supply - and why do the
manufacturers want immunity The
~~report~~ referenced impact of this agent
into anti-freeze

Call

P.T.T's

Q) how would you determine
which would cause the death
of a person.

A) No answer - cause both may
have been + the current
condition is not liable the
way this Bill is written

Rep. Paro - Q The MSDS sheet says eye irritant better than death

A) There is no hard facts and the reason I presented the data sheet. The real focus is preventing injury to our children.

Rep. Cox Q) is this used in MAIL police and been around for decades.

A) was up the addition in mail police

Rep. Halder Q) ~~is~~ The color is added to make it green - its color

A) not aware of it

Rep. Postma Q) the bitter agents in adding it has no issue

A) we are asking that a new product by adding + the immunity to the manufacturers be addressed + why we oppose this Bill

Rep. Kaen Q) if the product did not prove safe - would it work

A) This chemical being added is not the injector but the immunity.

~~is~~ and those states that have not have some similar wording

Rep Cox

- Q) Safety data sheet - pg. 4 the contents would be more dangerous than the additive
- A) we have no idea on what the results would be if it was BIODEGRADABLE - we don't have enough data - i.e. the fish did not pass

Rep Ruppert

- Q) other countries
- A) can not speak to that directly.

3
+
3a

Joanne Bourbeau (handwritten) 3 3a
representing the Humane Society of the United States.

Rep Hovitz

- Q) 1-teaspoon seems like a very small amount. Is it too late once the cat licks it up - I have ~~some~~ ~~students~~ studies been down
- A) not aware of.

Rep Ruppert

- Q) in your testimony like a radicle looking in the game - would that be the same
- A) This Bill is a concerning and concede with the spasms.

Rep. Stovitz

Q) would you know the total volume used

A) don't know.

Rep. Cali

Q) in California a report states that no problems with water sources found

A) not aware of report.

Hon. Bob Clegg -
Handout ①
'data'

sometimes this has passed & never passes the House & our Senate. - We are not must be aware of MTRB & who is liable. HESS says that we are not obligated & you HESS corps - & does the State have the right of what happens on my property. read line 19 & immunity is not in my book cases I have no re-course when either side will not take on the problem.

why mandate and then give me immunity. We are not getting anywhere, except ~~insurance~~ immunity.

The history is - not making the
two, is a problem & want
immunity

Calvin Petts

Q) right now! Anti freeze is
toxic

A) any amount is toxic - and
there should be some
responsibility

Dr Pas tone

Q) who made the formula
i.e parts Per million
(PPM)

A) The industry researcher.

Maurice Manning - "opposes" - concerned
about immunity - which
has a cause and effect.
No data or studies presented.
and that is disturbing &
not give your immunity
without any data.
I have clients who had wells
contaminated - all depends on
these facts. And protecting
wild life is all they seem
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research - Impact on Anti-forgery & suicides - In addition to add any fitting
agreed will not stop a person from
committing suicide. This body/committee
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Rep Bernick

Q) do - or does this manufacture
steer liability

A) I do not have any windows
showing immunity by willing to
sell it?

Rep Cali

Q) would Fed gov. pass it?

A) we do not know what
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Rep Rank

Q) not sure why we being
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Q) 55 gal drums - my animal I
can replace - my children
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handout about predators

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Posters

Q) - This same article has many
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so many disclaimers

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Drs + this study has
limitations - pass the Bill
and give us immunity.

Blue sheet for - 7
against - 2

Testimony



Representing Household & Institutional Products

Aerosol - Air Care - Cleaners - Polishes
Automotive Care - Antimicrobial - Pest Management

Testimony of the
CONSUMER SPECIALTY PRODUCTS ASSOCIATION
in support of

SENATE BILL 55 (SENATOR ODELL, ET AL.)

"AN ACT requiring certain engine coolants and antifreeze to include an aversive agent so that they are rendered unpalatable"

presented to the

HOUSE COMMITTEE ON SCIENCE, TECHNOLOGY AND ENERGY

STATE OF NEW HAMPSHIRE

APRIL 5, 2011

Presented by: Sean Moore, Director, State Affairs – East Region

Chairman Garrity and distinguished members of the House Committee on Science, Technology and Energy, my name is Sean Moore and I am Director of State Affairs for the Eastern United States at the Consumer Specialty Products Association (CSPA). CSPA appreciates this opportunity to appear before you, on behalf of the antifreeze industry, **in support of Senate Bill 55** – an act to require an aversive agent be included in antifreeze to render it unpalatable.

CSPA is the premier trade association representing the interests of some 250 companies engaged in the manufacture, formulation, distribution and sale of \$80 billion annually in the U.S. of hundreds of familiar consumer products that help household and institutional customers create cleaner and healthier environments. Our products include disinfectants that kill germs in homes, hospitals and restaurants; candles, and fragrances and air fresheners that eliminate odors; pest management products for home, garden and pets; cleaning products and polishes for use throughout the home and institutions; products used to protect and improve the performance and appearance of automobiles; aerosol products and a host of other products used every day. Through its product stewardship program, Product Care®, and scientific and business-to-business endeavors, CSPA provides its members a platform to effectively address issues regarding the health, safety, sustainability and environmental impacts of their products. For more information, please visit www.cspa.org.

CSPA and the manufacturers of antifreeze care deeply about the safety of antifreeze consumers and animals. The language of SB 55 is the result of a collaborative effort between the Humane Society of the United States and CSPA and closely matches laws that have been adopted in fifteen other states. We appreciate Senator Odell's drive to pass legislation that accomplishes the objectives of all parties, and we urge this committee to recommend this bill for passage without further amendments, which could undermine the broad support it currently enjoys.

Senate Bill 55 Provides Appropriate Requirements

Importantly, in addition to helping protect animals and consumers, this legislation provides necessary assignment of liability for the manufacturers of antifreeze, who do not produce denatonium benzoate (DB), the aversive agent that would be required in their products. The antifreeze industry is very comfortable with the environmental impacts of its product, but our companies do not manufacture DB and have limited knowledge on its chemical profile and breakdown in the environment. As such, this legislation separates liability leaving the antifreeze manufacturer with responsibility for antifreeze and the DB manufacturer liable for its product. It is a matter of fundamental fairness and equity that this legislation provides designated assignment of liability in light of this manufacturing situation.

This legislation provides a reasonable effective date (October 11, 2011) to allow manufacturers to provide bitter antifreeze to New Hampshire, which would be the sixth state along the eastern seaboard to have such a mandate take effect in 2011 (compared to zero prior to 2011). Without this reasonable implementation timeline it would be difficult for manufacturers to ensure that an adequate supply of bitter antifreeze is available to the state of New Hampshire.

This legislation also stipulates denatonium benzoate as the aversive agent to be used. Our companies have spent over 20-years researching alternatives to DB for bittering antifreeze and no alternatives have been found to be acceptable. Denatonium benzoate is the only aversive agent that effectively bitters the product, does not impact engine performance, and remains bitter throughout transport. To allow for alternative aversive agents, that might be as bitter, could create the potential for problems with the performance of radiators in New Hampshire.

The requirements and provisions of Senate Bill 55 are absolutely essential to accomplishing the goals of this legislation and ensuring that New Hampshire has an adequate and compliant antifreeze supply. CSPA has concerns that amendments to the current text of the legislation will defeat the goals of the bill and undermine the broad support that it currently has.

Education Is Also Important and an Effective Deterrent

CSPA and antifreeze producers would also like to note that including an aversive agent in antifreeze will not create an exposure-proof product. CSPA and the antifreeze industry continue to believe the most effective way to protect children and animals from accidental exposure to ethylene glycol antifreeze is to properly use, store and dispose of the product. CSPA believes that the use of child-resistant enclosures in coordination with public education and outreach promoting the safe use and storage of antifreeze is the most successful way to protect consumers. To help achieve this goal, during the past 10 years, our members have actively supported the American Association of Poison Control Centers (AAPCC), in a series of Public Service Announcements (PSAs) entitled, "Take Care: Car Fluids, Children, and Pets." These public service announcements seek to educate consumers about the proper use and storage of antifreeze and other automotive fluids

These PSAs have received significant airtime and have been viewed and heard over 320 million times. This is a major achievement in providing accurate and useful information to consumers.

These PSA's are effective in preventing animal and human exposures to antifreeze and are just one example of how the antifreeze industry is being proactive to protect its consumers.

Child-resistant Closures Are Also Effective

The producers of antifreeze have also taken steps to reduce the risks of accidental exposure through the use of child-resistant closures. All antifreeze products sold to consumers are equipped with child-resistant closures and provide prominent label warnings about proper use storage and disposal of the product (*see* 16 CFR § 1700.14(a)(11) *and* 16 CFR § 1500.14(b)(2)). In addition, most manufacturers adhere to a voluntary industry policy to use foil safety seals on consumer product containers. The AAPCC concluded that child-resistant closures have been extremely effective in preventing accidental exposures to consumer products.

It is also important to note that there have been very few serious accidental human exposures to antifreeze. In fact, AAPCC reported that in 2009 (the most recent year for which data is available), there were a total of only ten deaths in the United States from ingesting antifreeze. Significantly, all ten of these deaths were determined to have been caused by intentional abuse, and all of these cases involved persons over 21 years of age. Indeed, to the best of our knowledge, the AAPCC has reported no deaths of a child under the age of six related to accidental ingestion of ethylene glycol-based automotive antifreeze since it began collecting data in 1983. Additionally, the total number of exposures to antifreeze amounted to less than one-quarter of one percent, or 0.213%, of the total exposure-related calls received by poison control centers throughout the United States during calendar year 2009.

Conclusion

CSPA and the antifreeze industry appreciate this opportunity to present our position on this important issue. As you can see, the antifreeze industry has been – and continues to be – proactive in protecting consumers and animals from accidental exposure to ethylene glycol based antifreeze.

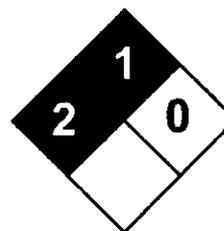
We support Senate Bill 55 as currently drafted, with the assigned liability provision and a reasonable effective date. This carefully negotiated legislation closely matches laws adopted by fifteen other states including Maine, Massachusetts and Vermont here in New England. CSPA respectfully urges the Committee to recommend this bill for passage without any amendments or elimination of important provisions, which could undermine its broad support.

I am now available to answer any questions you may have.



Science Lab.com
Chemicals & Laboratory Equipment

2



Health	2
Fire	1
Reactivity	0
Personal Protection	E

Material Safety Data Sheet Denatonium benzoate MSDS

Section 1: Chemical Product and Company Identification

Product Name: Denatonium benzoate

Catalog Codes: SLD3193

CAS#: 3734-33-6

RTECS: BO6650000

TSCA: TSCA 8(b) inventory: Denatonium benzoate

CI#: Not available.

Synonym: Bitrex; N-[2-[(2,6-Dimethylphenyl)amino]-2-oxoethyl]-N,N-diethylbenzenemethanaminium benzoate

Chemical Formula: C₂₈H₃₄N₂O₃

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: 1-800-901-7247

International Sales: 1-281-441-4400

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Denatonium benzoate	3734-33-6	100

Toxicological Data on Ingredients: Denatonium benzoate: ORAL (LD50): Acute: 584 mg/kg [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:

Very hazardous in case of ingestion. Hazardous in case of eye contact (irritant), of inhalation. Slightly hazardous in case of skin contact (irritant).

Potential Chronic Health Effects:

Very hazardous in case of ingestion. Hazardous in case of eye contact (irritant), of inhalation. Slightly hazardous in case of skin contact (irritant). **CARCINOGENIC EFFECTS:** Not available. **MUTAGENIC EFFECTS:** Not available. **TERATOGENIC EFFECTS:** Not available. **DEVELOPMENTAL TOXICITY:** Not available. The substance is toxic to lungs, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

Skin Contact:

After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Serious Skin Contact: Not available.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Serious Inhalation: Not available.

Ingestion:

Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂...).

Fire Hazards in Presence of Various Substances: Not available.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Section 7: Handling and Storage

Precautions:

Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Avoid contact with eyes Wear

suitable protective clothing In case of insufficient ventilation, wear suitable respiratory equipment If ingested, seek medical advice immediately and show the container or the label.

Storage:

Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid.

Odor: Not available.

Taste: Not available.

Molecular Weight: 446.59 g/mole

Color: Not available.

pH (1% soln/water): Not available.

Boiling Point: Decomposes.

Melting Point: 168°C (334.4°F)

Critical Temperature: Not available.

Specific Gravity: Not available.

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility: Partially soluble in cold water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Not available.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: No.

Section 11: Toxicological Information

Routes of Entry: Eye contact. Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): 584 mg/kg [Rat].

Chronic Effects on Humans: The substance is toxic to lungs, mucous membranes.

Other Toxic Effects on Humans:

Very hazardous in case of ingestion. Hazardous in case of inhalation. Slightly hazardous in case of skin contact (irritant).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: Denatonium benzoate

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada): CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):

R22- Harmful if swallowed. R36- Irritating to eyes.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 1

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/09/2005 05:05 PM

Last Updated: 11/01/2010 12:00 PM

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IMP

Johnson Matthey
Macfarlan Smith

SAFETY DATA SHEET

1) Identification Of The Substance/Preparation And Of The Company/Undertaking

Material Name : **Bitrex® Anhydrous**
 Datasheet N° : 330340
 Product Part N° : 330340, 330350
 Chemical Name : N-[2-(2,6-Dimethylphenyl) amino]-2-oxoethyl]-N,N-diethylbenzethanaminium benzoate
 Synonyms : Denatonium Benzoate
 Benzyl diethyl [(2,6 xylyl carbamyl) methyl] ammonium benzoate

Application : Aversive Agent and Denaturant

Supplier/Manufacturer : Macfarlan Smith
 A Johnson Matthey PLC Business

Address : Wheatfield Road Telephone N° : 44(0) 131 337 2434
 Edinburgh Fax N° : 44(0) 131 337 4436
 EH11 2QA Emergency Telephone N° : 44(0) 131 337 2434
 Scotland

Responsible Person :

2) Composition/Information on ingredients

Chemical Name	Concentration	CAS N°	EC N°	R Phrases	Symbols
Bitrex® Anhydrous	99.5%	3734-33-6	2230952	20/22, 38, 41, 52/53	Xn; Harmful

3) Hazard Identification

Odour : Odourless

Appearance : White, crystals with an extremely bitter taste.

Contact with eyes : Causes severe redness and irritation. May cause burns.

Contact with skin : May cause redness and irritation.

Inhalation : May cause allergic reaction in susceptible people. May cause breathing difficulty. Will cause a desire to remove the material from the mouth. Harmful by inhalation and if swallowed (R20/22).

Ingestion : May cause allergic reaction in susceptible people. Harmful if swallowed (R22). The ingestion of significant quantities may cause breathing difficulty. Will cause an immediate desire to remove the material from the mouth.

Teratological Effects : No information available.

Carcinogenic Effects : No evidence of carcinogenic effects.

Reproductive Effects : No evidence of reproductive effects. No evidence of mutagenic effects.

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4) First aid Measures

- Contact with skin
- Remove contaminated clothing immediately and drench affected skin with plenty of water. Then wash with soap and water.
 - Contaminated clothing should be laundered before reuse.
 - Seek medical attention if ill effects occur.
- Contact with eyes
- If substance gets into the eyes, immediately wash out with plenty of water for at least 15 minutes.
 - Irrigate eyes thoroughly whilst lifting eyelids.
 - Obtain immediate medical attention.
- Ingestion
- Rinse mouth with water (do not swallow)
 - Give plenty of water to drink.
 - Never give anything by mouth to an unconscious person.
 - When in doubt or symptoms persist, seek medical attention.
- Inhalation
- Remove patient to fresh air.
 - If breathing is difficult, a trained person should give oxygen.
 - Apply artificial respiration only if patient is not breathing.
 - Keep warm and at rest.
 - Obtain immediate medical attention.

5) Fire Fighting Measures

- Auto ignition point: not known.
- Non explosive
- Not flammable but will support combustion.
- Decomposition products may include nitrogen oxides.
- Wear Chemical Protection Suit and Breathing Apparatus.
- In case of fire use water, alcohol resistant foam, carbon dioxide or dry agent (S43).

6) Accidental Release Measures

- Immediate Actions
- Use vacuum cleaner to collect spilled material fitted with a suitable filter to prevent particles blowing back into the atmosphere e.g. Type H(BS5415).
 - Evacuate the area and keep personnel upwind.
 - Use appropriate containment to avoid environmental contamination (S57).
- Clean Up Actions
- Ventilate the area and wash spill site after material pick-up is complete.
 - Place in suitable container.
 - Seal containers and label them.
 - Remove contaminated material to safe location for subsequent disposal.
 - To clean the floor and all objects contaminated by this material use soap and water (S40).
 - There is some evidence that a sodium hypochlorite solution used to wash the spill site may assist in removing the Bitrex® and so may also be used.
- Special Precautions
- Seek expert advice for removal and disposal of all contaminated materials and wastes. Disposal should comply with information given in Section 13.
 - Wear protective clothing as per section 8.
 - Bitrex's® extremely bitter properties are highly appreciated to prevent inadvertent ingestion of a large range of chemicals used in the household environment. A concentration of 10 parts per million is enough to give people an unpleasant taste in the mouth which they want to get rid of as soon as possible. Inhalation of air containing this concentration gives the same effect.
 - A spill of Bitrex® should be dealt with in such a way that the Bitrex® particles are prevented from spreading in the air and causing an unpleasant taste.

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7) Handling and Storage

- | | |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Handling | <ul style="list-style-type: none"> - When using do not eat, drink or smoke (S20/21). - Avoid contact with eyes (S25). - Do not breathe dust (S22). - Use good personal hygiene practices. - Proper chemicals handling procedures should be adopted. |
| Storage | <ul style="list-style-type: none"> - Store in clearly labelled airtight containers - Keep in a cool, dry, well ventilated place. |

8) Exposure Controls / Personal Protection

- | | |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Engineering Controls | <ul style="list-style-type: none"> - Engineering controls should be provided which maintain airborne concentrations as low as practicable. |
| Precautionary Measures | <ul style="list-style-type: none"> - Decontaminate personal protective equipment after use. If this is not possible, dispose of as contaminated waste. - Use only in well ventilated areas (S51). |
| Personal Protection | <ul style="list-style-type: none"> - If dust concentration is expected to be high then an airtight suit should be worn. In other situations an airhood or suitable respirator must be worn. - Wear disposal overalls (dusts and powders) or wear suitable respiratory equipment. - Wear antistatic boots. - Wear plastic or rubber gloves. - In a laboratory wear a lab coat, safety glasses and rubber gloves and handle in a contained area. |
| Exposure Limits | <ul style="list-style-type: none"> - Exposure limit (in-house) 0.1 mg/m³ (8 hour TWA) |

9) PHYSICAL AND CHEMICAL PROPERTIES

- | | |
|-------------------------|-----------------------------------------------------------------------------------------------|
| Odour | : Odourless |
| Appearance | : White crystals with an extremely bitter taste |
| pH | : 6.5-7.5 at 3% concentration |
| Boiling Point | : Not applicable |
| Vapour Pressure | : Not applicable |
| Vapour Density | : Not applicable |
| Melting Point | : 163-170°C |
| Water Solubility | : 45 g/l |
| Fat Solubility | : Not applicable |
| Density | : Not known |
| Minimum Ignition Energy | : 2-4mJ (median particle size 22.3µm - i.e. powder) |
| Non explosive | |
| Partition Coefficient | : n-Octanol/water 0.9 |
| Concentration | : 99.5% |
| Formula | : C ₂₁ H ₂₉ N ₂ O ₇ H ₅ O ₂ |
| Particle size range | : 0.1 – 3400 µm (98% in range 250 – 3400 µm) |

10) STABILITY AND REACTIVITY

- Stable at least up to 140°C.
- Incompatible with oxidising substances.
- Decomposition products may include nitrogen oxides.

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11) TOXICOLOGICAL INFORMATION

LD50	(oral, female rat)	648 mg/kg
LD50	(oral, male rat)	841 mg/kg
LD50	(oral, rat)	749 mg/kg
LC50	(inhalation, rat)	0.2 mg/1/4h at particle mass median size of 3µm
Irritation to eyes	(rabbit)	Corrosive
Irritation to skin	(rabbit)	Moderate
Sensitisation	(guinea pig)	Negative
LD50 Acute dermal	(rat)	> 2000 mg/kg
Acute dermal irritation	(rabbit)	2.8 Draize classification
Buehler delayed contact hypersensitivity	(Guinea pig)	0% Sensitisation

- Carcinogenicity - No evidence available on carcinogenicity.
- Teratogenicity - No evidence of reproductive effects.
- Mutagenicity - Ames Test - Negative
 - No evidence of mutagenic effects
 - Fluctuation test 1000 µg/ml
 - Yeast gene conversion assay 5000 µg/ml
 - Mouse micronucleus : negative
 - Ames test 5000µg per plate

12) ECOLOGICAL INFORMATION

- Ecotoxicology - Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment (R52/53).
 - If this substance is discharged at low concentrations into an adapted biological effluent treatment plant, the degrading action of the activated sludge will not be affected.
- Environmental Fate - Low bioaccumulation potential.
 - Water solubility 45 g/l
- Environmental Hazard Values - LC50 (rainbow trout) >1000 mg/l (96 hr)
 - EC50 (Daphnia magna) 13 mg/l (48 hr) - no inhibition at 5mg/l
 - LC50 (shrimp) 400 mg/l (96 hr)
 - Abiotic degradation 10% after 5 days at 50°C at all pH's
 - Abiotic degradation 10% after 30 days at 25°C at all pH's
 - Sub-acute oral LC50 Bobwhite Quail 5200ppm (also NOEL)
 - Sub-acute dietary LC50 Mallard Duck >200mg/kg

13) DISPOSAL CONSIDERATIONS

- Classification - Incinerate waste at a licensed facility.
 - This material and/or its container must be disposed of as hazardous waste.
- Disposal Considerations - Incinerate at a licensed facility.
 - Do not discharge into drains or the environment, dispose to an authorised waste collection point.
 - Disposal should be in accordance with local, state or national legislation.
 - In UK, surplus product should be declared a "Special Waste"
 - Surplus product should be classified in accordance with EU regulations.
 - Avoid release to the environment. Refer to special instructions/safety data sheets (S61).
 - Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point (S29/56).
 - Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point (S29/56).

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14) TRANSPORT INFORMATION

Not Classified

15) REGULATORY INFORMATION

- Classification & Labelling - Where UK Regulations are quoted, then for other nations the equivalent regulations should be identified.
- The data given here is based on current knowledge and experience. This safety data sheet describes the product in terms of safety requirements and does not signify any warranty with regard to the product properties.



Harmful

- Risk Phrases - Harmful by inhalation and if swallowed (R20/22)
- Irritating to skin (R38)
- Risk of serious damage to eyes (R41)
- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment (R52/53).
- Safety Phrases - Do not breathe dust (S22).
- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice (S26).
- Wear suitable protective clothing, eye/face protection and gloves (S36/37/39).
- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible) (S45).
- This material and its container must be disposed of in a safe way (S35).
- Avoid release to the environment. Refer to special instructions/safety data sheets (S61).
- Applicable Laws - The COSHH Regulations apply in the UK.
- The LATA Regulations apply in the UK.
- The ADR Regulations apply in the UK.
- The ICAO Regulations apply in the UK.
- The RID Regulations apply in the UK.
- The Health and Safety at Work Act applies in the UK.
- The Management of Health and Safety Regulations applies in the UK.
- The Chemicals (Hazard Information and Packaging) Regulations applies in the UK.
- The Safety Data Sheets Directive and any updates apply in the UK
- The EC Directive 2001/59/EC applies in the UK.
- The Dangerous Substances Directive (67/548/EEC) and its updates apply in the UK.
- This Safety Data Sheet is provided in compliance with The Chemicals (Hazard Information and Packaging) Regulations.

16) OTHER INFORMATION

- Miscellaneous Bitrex® has been placed on the TSCA Inventory.
- References 1) Micronucleus test report Scantox Biological Laboratory Limited.
- 2) Reproduction Inhibition test with Daphnia Magna. Water Quality Institute, Denmark.

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- 3) Acute dermal toxicity report 799/2. Safeparm Laboratory Limited.
- 4) Acute dermal irritation report 799/3. Safeparm Laboratory Limited.
- 5) Guinea pig hypersensitivity report 799/5. Safeparm Laboratory Limited.
- 6) Acute inhalation toxicity report 799/6. Safeparm Laboratory Limited.
- 7) Acute oral toxicity report 799/01. Safeparm Laboratory Limited.
- 8) Acute eye irritation report 799/04. Safeparm Laboratory Limited.
- 9) Abiotic degradation report 799/07. Safeparm Laboratory Limited.
- 10) Inveresk Research : June 2000 : N° 965111
- 11) HEL MIE Report : October 2000

Comment

Bitrex® is perhaps the bitterest substance known to man (1:500000). The taste of it engenders the immediate desire to cleanse the mouth of any trace of the material. It is therefore considered that the risk to humans is significantly lower than might be expected from looking at the animal tests.

The CHIP and Transport classifications are based on a review of the particle size versus the toxicological data by an independent toxicologist. Over 40 years of manufacturing, experience does not show this level of activity by inhalation and we would not expect any adverse health effects from customer operations.

There has been one report of a case in one man that involved contact urticaria and asthma from contact with an insecticidal spray that contained Bitrex®.

People who are allergic to local anaesthetics similar to Lignocaine may also react to Bitrex® and should avoid contact with this material. In animal tests Bitrex® has not shown any sensitisation potential.

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The Impact of Bittering Agents on Pediatric Ingestions of Antifreeze

Nicole C. White, Toby Litovitz, Blaine E. Benson, B. Zane Horowitz, Lisa Marr-Lyon and Marisa K. White
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The Impact of Bittering Agents on Pediatric Ingestions of Antifreeze

Nicole C. White, BA, Toby Litovitz, MD, Blaine E. Benson, PharmD, B. Zane Horowitz, MD, Lisa Marr-Lyon, PhD, and Marisa K. White

Background. Legislation requiring bittering of antifreeze enables assessment of the impact on frequency, volume, and severity of pediatric antifreeze ingestions. **Methods.** US poison control data for antifreeze ingestions in children younger than 5 years were analyzed comparing 232 ingestions occurring in states after enactment of bittering requirements with 6218 cases occurring in states (or at times) where bittering was not required. **Results.** The frequency of pediatric antifreeze ingestions was unchanged after implementation of bittering in Oregon and California. The medical outcome distribution, median volume ingested, and observed clinical effects were no different in bittered compared with nonbittered groups. Likewise, the rates of hospital

admission, critical care treatment, and use of alkalization, hemodialysis, or intubation showed no differences with bittering. **Conclusion.** Despite the appealing logic of limiting the ingested volume and thereby the severity of poisonings by adding aversive agents, and despite promising results in volunteer studies, bittering agents do not decrease the frequency or severity of pediatric antifreeze poisonings. The addition of bittering agents to household products cannot be justified based on actual poisoning data.

Keywords: antifreeze poisoning; aversive agents; pediatric ingestions; poison prevention; ethylene glycol poisoning

Ethylene glycol, the common ingredient of automobile antifreeze, was implicated in 756 poison exposures in children younger than 6 years reported to US poison centers in 2004.¹ Virtually all deaths from antifreeze are intentional suicides,² whereas unintentional ingestion of antifreeze has not resulted in a single death in a child younger than 5 years of age reported to a US poison center in the 25 years that the American Association of Poison Control Centers has compiled national poisoning data.³

From the University of Virginia School of Medicine, Charlottesville, Virginia (NCW); National Capital Poison Center, Washington, DC (TL); New Mexico Poison and Drug Information Center, Albuquerque, New Mexico (BEB); Oregon Poison Center, Portland, Oregon (BZH); Prevention Research Center, University of New Mexico, Albuquerque, New Mexico (LM-L); and Georgetown University, Washington, DC (MKW).

There was no external funding for this study. The authors have no potential financial conflicts of interest to report.

Address correspondence to: Toby Litovitz, MD, National Capital Poison Center, 3201 New Mexico Avenue, Suite 310, Washington, DC 20016; e-mail: toby@poison.org.

Ethylene glycol is a highly toxic, colorless, odorless liquid with a sweet taste—characteristics that have been suggested as factors in the frequency and severity of antifreeze poisoning.⁴ Decreasing the palatability of toxic products by adding bittering agents has been advocated to reduce the lethality of unintentional poisonings. Denatonium benzoate, the most commonly used bittering agent, can be tasted at concentrations as low as 50 parts per billion,⁵ and is listed in the Merck Index as “among the most bitter substances known to man.”⁶

Data assessing the efficacy of denatonium benzoate in decreasing the volume or severity of poison ingestions are conflicting. Experimental studies using volunteers suggest that adults and children ingest less bittered product than nonbittered product,^{4,5,7-10} but population studies have not detected a reduction in frequency or severity of unintentional pediatric poisonings following the incorporation of bittering agents into marketed products.^{11,12}

This investigation examines poison control center data to determine the impact of adding bittering agents to antifreeze. The study was made possible by

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 11. US Consumer Product Safety Commission. *Final Report: Study of Aversive Agents*. Washington, DC: US Consumer Product Safety Commission; 2002. <http://www.cpsc.gov/LIBRARY/FOIA/Foia99/os/aversive.pdf>. Accessed November 4, 2005.
 12. Mullins ME, Horowitz BZ. Was it necessary to add Bitrex (denatonium benzoate) to automotive products? *Vet Hum Toxicol*. 2004;46:150-152.
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 14. Jones DV, Work CE. Volume of a swallow. *Am J Dis Child*. 1961;102:173.
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 18. Cho CH. Antifreeze makers face the bitter pill: senators consider a bill to require an additive to deter ingestion by children and pets. *Los Angeles Times*. July 19, 2005:A10.
 19. Neumann CM, Giffin S, Hall R, Henderson M, Buhler DR. Oregon's toxic household products law. *J Public Health Policy*. 2000;21:342-259.
 20. California Legislature Assembly, December 23, 2003. Press release: Simitian antifreeze law goes into effect. <http://democrats.sen.ca.gov/senator/Simitian/press/p212003053.html>. Accessed November 2, 2005.
 21. An Act Relating to Consumer Products; Requiring an Aversive or Bittering Agent in Engine Coolant and Antifreeze; Providing for a Limitation on Liability; Providing Exceptions, 2005, New Mexico Senate Bill 497, 47th Legislature. Introduced by G. P. Ortiz y Pino.
 22. Consumer Product Safety Improvement Act of 1990, Pub. L. No. 101-608, § 204, 104 Stat. 3110, 1990.
 23. Antifreeze Bittering Act of 2003, H.R. 1563, 108th Congress, 2003.
 24. Antifreeze Bittering Act of 2005, H.R. 2567, 109th Congress, 2005.
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 26. White NC, Litovitz TL, Benson BE, et al. The impact of bittering agents on suicidal ingestions of antifreeze. *Clin Toxicol*. 2008;46:507-514.

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Testimony By: Joanne Bourbeau
Presented To: House Science, Technology & Energy Committee
In Support Of: SB 55, An Act Requiring Certain Engine Coolants and Antifreeze to include an Aversive Agent
Date: April 5, 2011

My name is Joanne Bourbeau and the Senior State Director for The Humane Society of the United States (HSUS), the nation's largest animal protection organization with over 11 million members and supporters, of which more than 77,000 live here in the Granite State. On behalf of our New Hampshire members, I am submitting testimony in support of SB 55 to require certain engine coolants and antifreeze to include an aversive agent so that they are rendered unpalatable.

Most antifreeze contains 90-95 percent ethylene glycol, a substance that is attractive to children and pets because it has a sweet smell and taste. Ethylene glycol can cause nausea and vomiting, depress the central nervous system, cause fluid build-up in the lungs, heart failure, kidney failure, seizures, coma, and death. *Less than a teaspoon can be fatal.*

Children and animals come into contact with antifreeze through containers that are not tightly sealed or discarded carelessly, leaks on driveways, spills along the road, on boat ramps, and in wildlife areas where ATV and 4-wheel drive vehicles are permitted. Animals have been known to chew through sealed containers.

Denatonium benzoate is the world's bitterest known substance, and would render antifreeze unpalatable. This legislation will help reduce the number of childhood emergencies and save countless animal lives at the cost of only 2-3 cents per gallon.

Celebrating Animals, Confronting Cruelty

Denatonium benzoate is used in many household products including liquid soaps, shampoos, rubbing alcohol, nail polish remover, animal repellents, solvents, paints, and varnishes. It is not known to pose any long-term health or environmental risks.

The American Academy of Pediatrics, American Veterinary Medical Association, The Pet Food Institute, The American Association of Poison Control Centers, the American Medical Association, the National Safety Council, and the American Journal of Public Health all recommend adding an aversive agent to antifreeze.

Washington State Veterinary Medical School estimates that 10,000 animals, including pets, wildlife, and endangered species, are poisoned by antifreeze ingestion each year. One veterinary survey estimates that as many as 90,000 dogs and cats are poisoned by antifreeze ingestion each year.

According to the Northern New England Poison Center, there were 130 New Hampshire residents exposed to antifreeze from 2005-2009. Of those, 19 were children under the age of 12. Death was the result in 2 of the total cases. In addition, 10 dogs and 1 cat were exposed to the poison. It's important to note that these figures only reflect those reported to the poison center. In a survey conducted with members of the NH Veterinary Medical Association last month, 17 hospitals reported cases involving 64 dogs and 14 cats exposed to antifreeze over the last 5 years.

The addition of a bittering agent to antifreeze is supported by The Consumer Specialty Products Association, which represents the antifreeze industry. Jeff Bye, Vice-President of Honeywell, the leading manufacturer of antifreeze, testified to Congress in support of federal legislation requiring the addition of a bittering agent to antifreeze.

However, because federal legislation moves at a snail's pace, fourteen states—Arizona, California, Illinois, Maine, Massachusetts, New Jersey, New Mexico, Oregon, Tennessee, Utah, Vermont, Virginia, Washington and Wisconsin — have already passed legislation requiring that a bittering agent be added to ethylene glycol antifreeze to make it unpalatable for animals and children.

We hope New Hampshire will join other states to ensure the safety of its children and pets, and urge your favorable support of this common sense and long overdue legislation.

Joanne Bourbeau, Senior State Director – VT/NH
The Humane Society of the United States

3a

Northern New England Poison Center 2005 - 2009 Antifreeze Exposure Data

Technical Assistance

Please contact Dan Sizemore (sizemh@mmc.org) at 207-662-7223 or Colin Smith (smithc12@mmc.org) at 207-662-7085 before publication or distribution and for assistance with interpretation.

NNEPC Data

A poisoning case represents a single individual's contact with a potentially toxic substance. A case can be self-reported or from someone calling on behalf of the victim (e.g., health care professional). Not all NNEPC poisoning cases represent an injury. Sometimes the substance is not toxic or the amount exposed to is not sufficient to cause toxicity. Changes over time may represent an actual increase in poisonings or an increase of awareness of the NNEPC and its services.

Data Definition

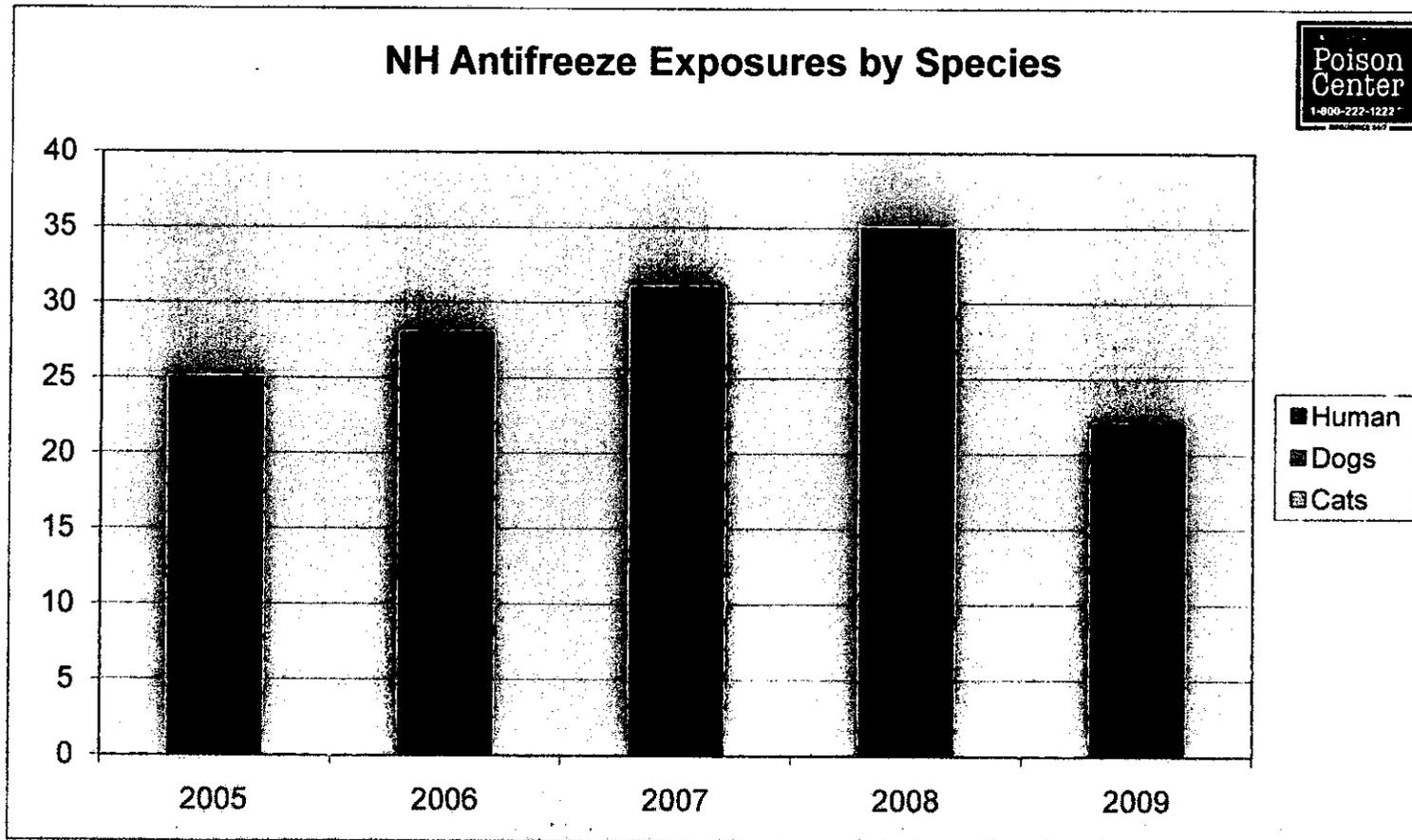
Cases count the number of people exposed. Substances count the number of substances of those cases. A victim could be exposed to multiple substances. The exposure and information call graphs are of substances, and the patient management (hospital) graph is of cases.

Funding

This project is funded by grant #U4BHS08564-01-00, awarded by the Department of Health and Human Services, Health Resources and Services Administration.

The NNEPC is also supported by: Maine Medical Center, a member of the MaineHealth Family; Maine Center for Disease Control and Prevention, Department of Health and Human Services; The United Way; New Hampshire Department of Safety; Vermont Department of Health; Fletcher Allen Health Care. The Northern New England Poison Center is also supported by funds received through grant #H4BHS00078-07-00, awarded by the Department of Health and Human Services, Health Resources and Services Administration. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Health Resources and Services Administration, Division of Healthcare Preparedness, Healthcare Systems Bureau.

Year	Cats	Dogs	Human
2005	0	4	21
2006	0	4	24
2007	1	1	29
2008	0	1	34
2009	0	0	22

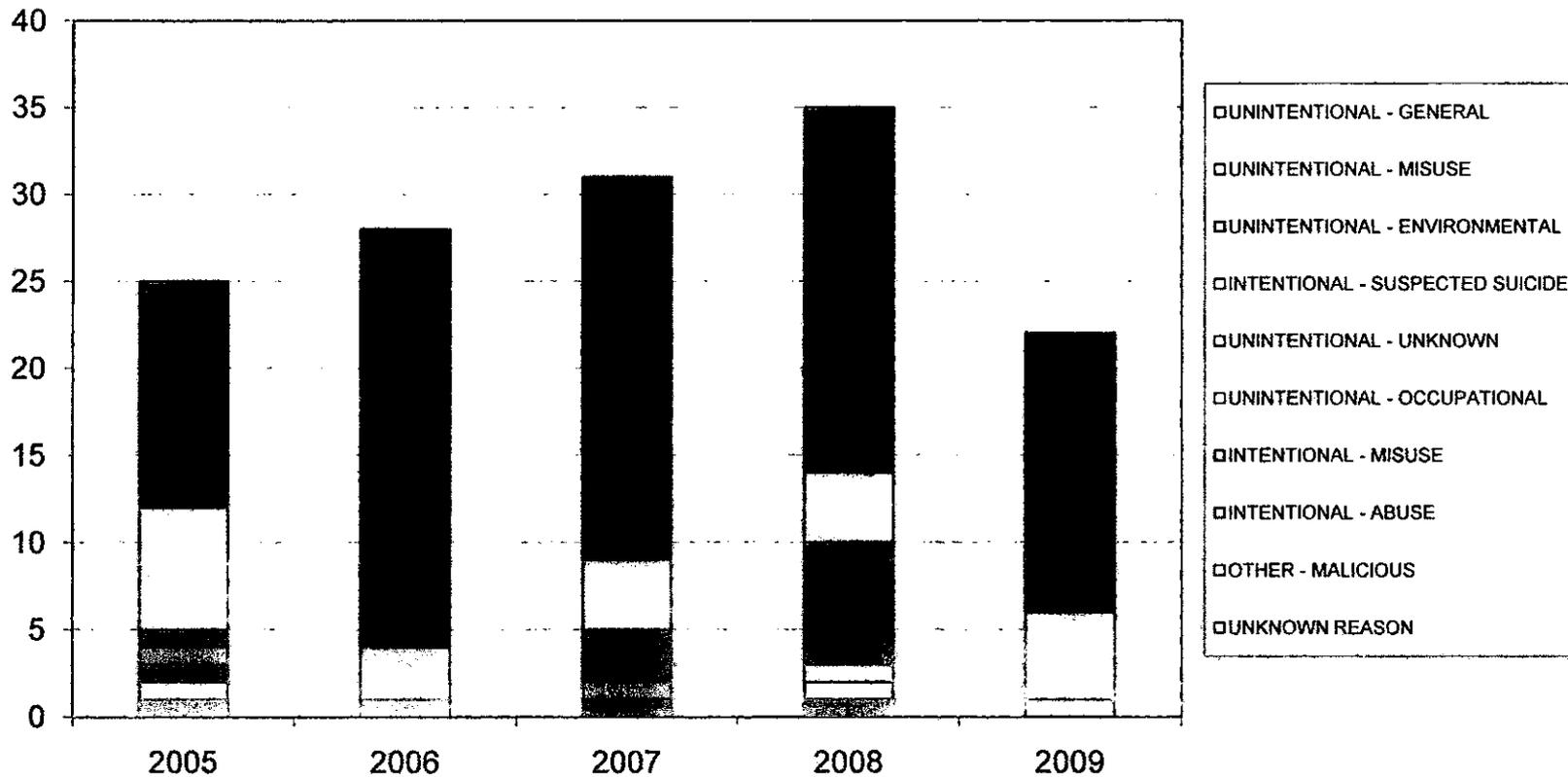


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	UNKNOWN REASON	OTHER - MALICIOUS	INTENTIONAL - ABUSE	INTENTIONAL - MISUSE	UNINTENTIONAL - OCCUPATIONAL	UNINTENTIONAL - UNKNOWN	INTENTIONAL - SUSPECTED SUICIDE	UNINTENTIONAL - ENVIRONMENTAL	UNINTENTIONAL - MISUSE	UNINTENTIONAL - GENERAL
2005	1	0	0	1	1	1	1	7	4	9
2006	0	0	0	0	0	1	0	3	10	14
2007	0	0	0	0	1	1	3	4	10	12
2008	0	1	1	1	0	0	7	4	11	10
2009	0	0	0	1	0	0	0	5	9	7

NH Antifreeze Exposure Reasons

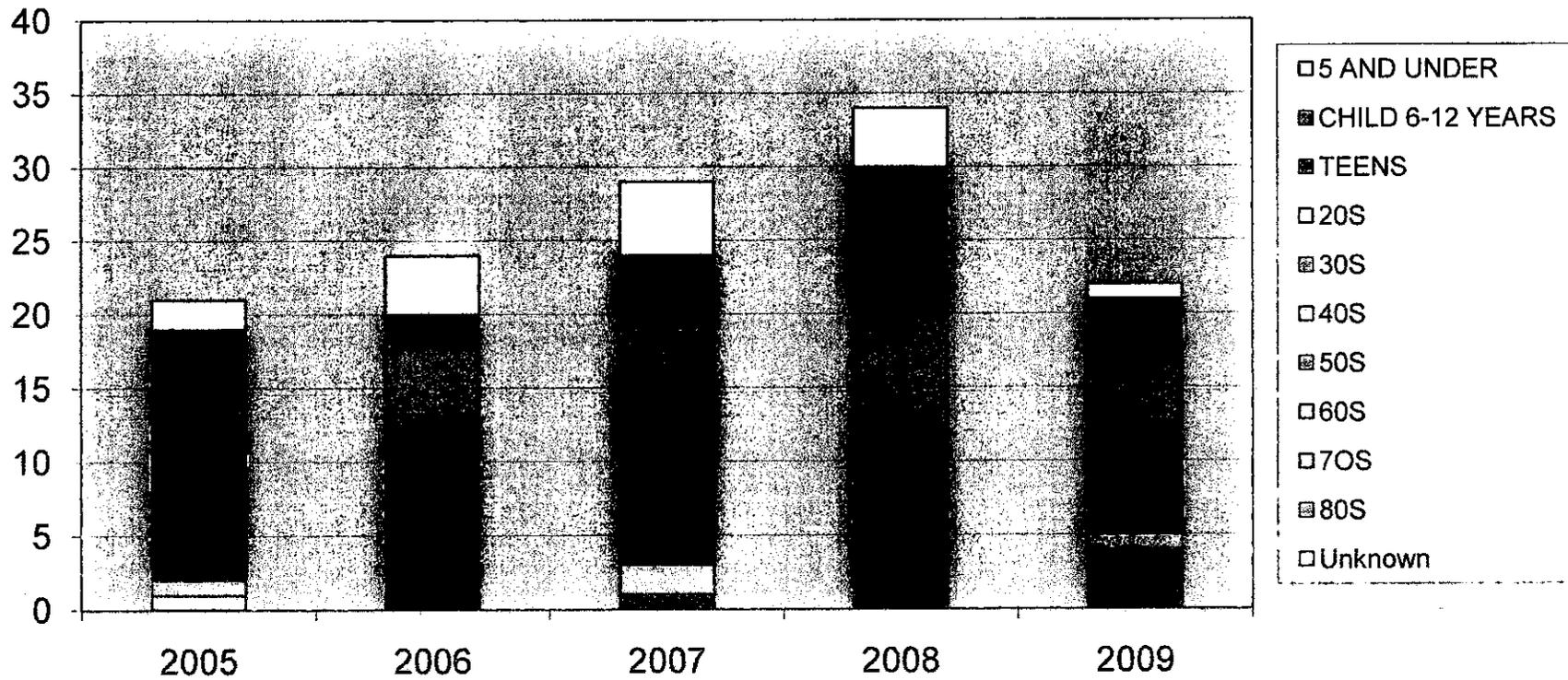


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	Unknown	80S	70S	60S	50S	40S	30S	20S	TEENS	CHILD 6-12 YEARS	5 AND UNDER
2005	0	0	1	1	1	4	5	3	4	0	2
2006	0	1	0	0	2	5	4	6	1	1	4
2007	1	0	0	2	1	6	6	3	5	0	5
2008	1	0	0	0	2	3	6	8	9	1	4
2009	4	0	0	1	2	3	2	5	3	1	1

NH Human Antifreeze Exposures by Age

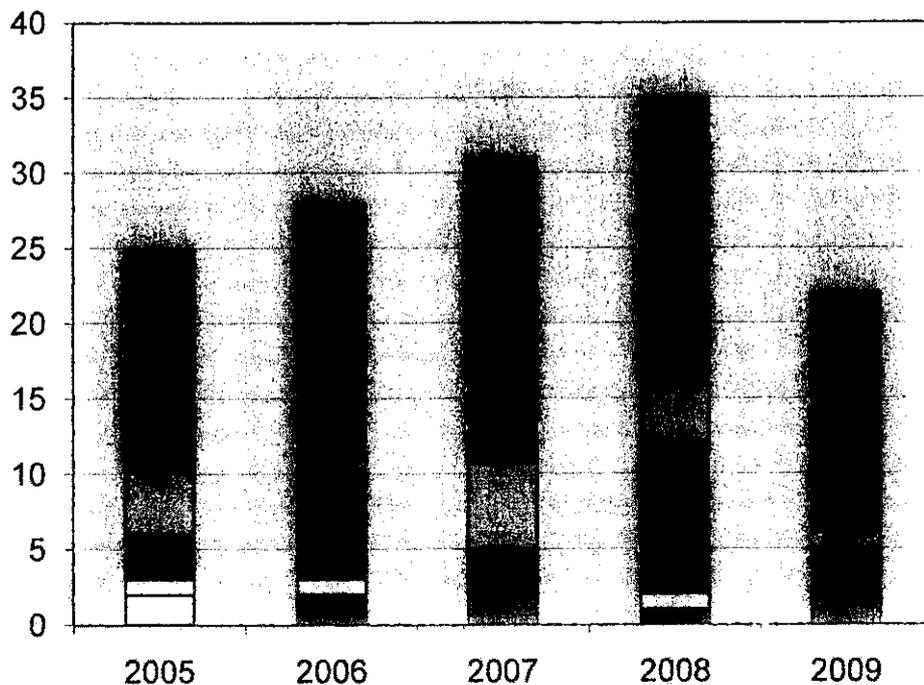


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	CONFIRMED NONEXPOSURE	NOT FOLLOWED, JUDGED AS NONTOXIC EXPOSURE (CLINICAL EFFECTS NOT EXPECTED)	DEATH	UNRELATED EFFECT, THE EXPOSURE WAS PROBABLY NOT RESPONSIBLE FOR THE EFFECT(S)	MAJOR EFFECT	UNABLE TO FOLLOW, JUDGED AS A POTENTIALLY TOXIC EXPOSURE	MODERATE EFFECT	MINOR EFFECT	NO EFFECT	NOT FOLLOWED, MINIMAL CLINICAL EFFECTS POSSIBLE (NO MORE THAN MINOR EFFECT POSSIBLE)
2005	0	0	2	1	1	0	2	4	5	10
2006	1	1	0	1	0	4	3	1	4	13
2007	0	0	0	0	0	2	3	6	5	15
2008	0	1	0	1	4	2	4	4	5	14
2009	0	0	0	0	0	2	3	1	0	16

NH Antifreeze Exposure Outcomes



- NOT FOLLOWED, MINIMAL CLINICAL EFFECTS POSSIBLE (NO MORE THAN MINOR EFFECT POSSIBLE)
- NO EFFECT
- MINOR EFFECT
- MODERATE EFFECT
- UNABLE TO FOLLOW, JUDGED AS A POTENTIALLY TOXIC EXPOSURE
- MAJOR EFFECT
- UNRELATED EFFECT, THE EXPOSURE WAS PROBABLY NOT RESPONSIBLE FOR THE EFFECT(S)
- DEATH
- NOT FOLLOWED, JUDGED AS NONTOXIC EXPOSURE (CLINICAL EFFECTS NOT EXPECTED)
- CONFIRMED NONEXPOSURE

Technical Assistance

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Dan Skopec
Acting Secretary

State Water Resources Control Board

Executive Office

Tam M. Doduc, Board Chair
1001 I Street • Sacramento, California 95814 • (916) 341-5615
Mailing Address: P.O. Box 100 • Sacramento, California • 95812-0100
Fax (916) 341-5621 • <http://www.waterboards.ca.gov>



Arnold Schwarzenegger
Governor

May 15, 2006

Ms. Sara Amundson
Deputy and Legislative Director
Doris Day Animal League
227 Massachusetts Avenue, NE, Suite 100
Washington, D.C. 20002-4963

Dear Ms. Amundson:

ADVERSE EFFECTS OF DENATONIUM BENZOATE ON WATER QUALITY

I am writing in response to your inquiry regarding California's experience to date with requiring the addition of the bittering agent denatonium benzoate to ethylene glycol-based antifreeze (Business and Professions Code Section 17582). Specifically, you asked whether there have been any adverse effects on water quality arising from the use of this additive since the law went into effect in 2002.

Even though it is regarded as the bitterest known substance, to date we are unaware of adverse impacts to California's water supplies arising from the use of denatonium benzoate in antifreeze and a variety of other products.

Please contact me at the above-referenced phone number, or by email at ccantu@waterboards.ca.gov should you have any further questions.

Sincerely,

Celeste Cantú
Executive Director

4



NHAJ Agenda for Justice

Protect NH families.
Protect the NH
Constitution.

Oppose SB 55.

April 2011

KEY POINTS

Agenda
for
Justice

Workplace
Safety

Consumer
Protection

Access to the
Courts

- The NH Constitution protects both the right to free, complete and prompt legal remedies and the right to a jury trial in civil cases. Granting immunity as provided for in this bill would violate these fundamental, constitutionally protected rights.
- The New Hampshire Supreme Court has recognized the importance of these rights and found that the State may limit them through the grant of statutory immunity only in the case of a compelling public policy.
- The current bill seeks to provide sweeping immunity to manufacturers, processors, distributors, recyclers or sellers of engine coolants or antifreeze required to contain an aversive agent **without proof of a compelling public policy requirement.**
- The only policy rationale industry lobbyists have advanced for this grant of immunity is their self interest in avoiding financial responsibility for their product. They argue that:
 - They recognize that their current product poses a danger to children and animals.
 - They recognize they could minimize this danger by adding a bittering agent to their product.
 - They will only agree to improve the safety of their product if the State promises something in return: absence from accountability.

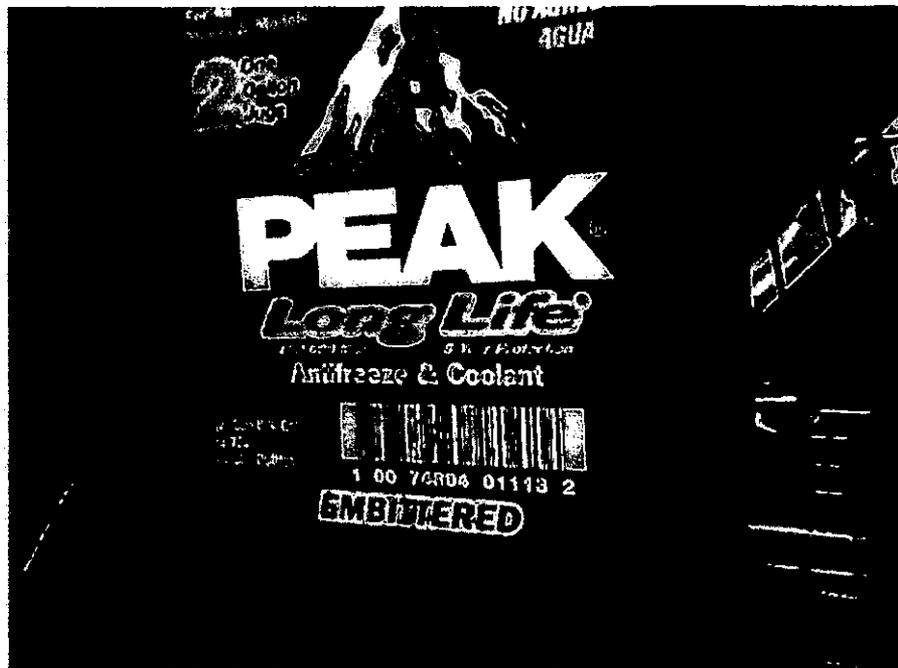
Given that public policy surely includes holding business accountable for the safety of its products, the proposition that the antifreeze industry should be given protection before it may be required to improve upon the safety of its product is itself a proposal *against* public policy.

- Including immunity in this legislation would harm the public good. Liability is one means by which to promote product safety and protect public wellbeing. The waiver proposed by the Antifreeze Industry would eliminate the manufacturers' incentive to create safer products and/or to warn the public about the product's hazards, leaving injured parties without remedies.
- In truth, New Hampshire merchants are not as self serving as the proposed legislation would suggest. To the contrary: some New Hampshire merchants already sell antifreeze with a bittering agent. The photo attached as Exhibit A is of antifreeze *with a bittering agent* offered for sale in NH on February 12, 20011. No sweeping incursion on constitutional rights was or is required as a prerequisite to sound business practice in our State.

Protect NH families.
Protect the NH
Constitution.

Oppose SB 55.

Photo of Antifreeze for Sale at NH Sam's Club on 2.12.2011



Voting Sheets

HOUSE COMMITTEE ON SCIENCE, TECHNOLOGY AND ENERGY

EXECUTIVE SESSION on SB 55-FN

BILL TITLE: requiring certain engine coolants and antifreeze to include an aversive agent so that they are rendered unpalatable.

DATE: 5-17-11

LOB ROOM: 304

Amendments:

Sponsor: Rep. OLS Document #:

Sponsor: Rep. OLS Document #:

Sponsor: Rep. OLS Document #:

Motions: OTP, OTP/A, ITL, Interim Study (Please circle one.)

Moved by Rep.

Seconded by Rep.

Vote: (Please attach record of roll call vote.)

Motions: OTP, OTP/A, ITL, Interim Study (Please circle one.)

Moved by Rep. Cataldo

Seconded by Rep. Levasseur

Vote: 8-7 (Please attach record of roll call vote.)

CONSENT CALENDAR VOTE: Consent or Regular (Circle One)

(Vote to place on Consent Calendar must be unanimous.)

Statement of Intent: Refer to Committee Report

Respectfully submitted,

Rep. Sam Cataldo, Clerk

HOUSE COMMITTEE ON SCIENCE, TECHNOLOGY AND ENERGY

EXECUTIVE SESSION on SB 55-FN

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Sponsor: Rep. OLS Document #:

Motions: OTP, OTP/A, ITL, Interim Study (Please circle one.)

Moved by Rep. *CATALDO*

Seconded by Rep. *LEWIS*

Vote: (Please attach record of roll call vote.)

Motions: OTP, OTP/A, ITL, Interim Study (Please circle one.)

Moved by Rep.

Seconded by Rep.

Vote: (Please attach record of roll call vote.)

CONSENT CALENDAR VOTE: Consent or Regular (Circle One)

(Vote to place on Consent Calendar must be unanimous.)

Statement of Intent: Refer to Committee Report

Respectfully submitted,

Rep. Sam Cataldo, Clerk

SCIENCE, TECHNOLOGY AND ENERGY

Bill #: SB 55-FN Title: _____

PH Date: 1/1

Exec Session Date: 5, 17, 11

Motion: ITL

Amendment #: _____

MEMBER	YEAS	NAYS
Garrity, James M, Chairman		N
Holden, Frank R, V Chairman	Y	
Introne, Robert E	Y	
Cataldo, Sam A	Y	
Devine, James E		N
Remick, William J		N
Rappaport, Laurence M		N
Cox, Sean C	Y	
MacMahon, Bruce A	ABSENT	
O'Connor, William H	Y	
Panek, William D	ABSENT	
Parison, James A	Y	
Summers, James D	Y	
Kaen, Naida L		N
Cali-Pitts, Jacqueline A		N
Read, Robin P	absent	
Levasseur, Nickolas J	Y	
Pastor, Beatriz		N
TOTAL VOTE:	8	7

Committee Report

REGULAR CALENDAR

May 25, 2011

HOUSE OF REPRESENTATIVES

REPORT OF COMMITTEE

The Committee on SCIENCE, TECHNOLOGY AND ENERGY to which was referred SB55-FN,

AN ACT requiring certain engine coolants and antifreeze to include an aversive agent so that they are rendered unpalatable. Having considered the same, report the same with the following Resolution:

RESOLVED, That it is **INEXPEDIENT TO LEGISLATE**.

Rep. Sam A Cataldo

FOR THE COMMITTEE

COMMITTEE REPORT

Committee:	SCIENCE, TECHNOLOGY AND ENERGY
Bill Number:	SB55-FN
Title:	requiring certain engine coolants and antifreeze to include an aversive agent so that they are rendered unpalatable.
Date:	May 18, 2011
Consent Calendar:	NO
Recommendation:	INEXPEDIENT TO LEGISLATE

STATEMENT OF INTENT

This bill would have mandated that a specific chemical (denatonium benzoate) be added to certain engine coolants and antifreeze to render them unpalatable. The purpose of adding a "bittering agent" to antifreeze would be to make it unpalatable to animals and children, in the hopes that they will not drink it and be poisoned. While the majority cares about animal health, we had several problems with the bill. First, it mandated only one bittering solution, even though there are multiple options available in the market. Second, it frees both the antifreeze manufacturers and chemical manufacturers from legal liability when the products are blended. Third, it includes multiple exclusions that watered down the desired impact of the bill. This mandate is not needed, and we encourage the antifreeze manufacturers to voluntarily offer "bittered" product for sale in the state.

Vote 8-7.

Rep. Sam A Cataldo
FOR THE COMMITTEE

Original: House Clerk
Cc: Committee Bill File

REGULAR CALENDAR

SCIENCE, TECHNOLOGY AND ENERGY

SB55-FN, requiring certain engine coolants and antifreeze to include an aversive agent so that they are rendered unpalatable. **INEXPEDIENT TO LEGISLATE.**

Rep. Sam A Cataldo for SCIENCE, TECHNOLOGY AND ENERGY. This bill would have mandated that a specific chemical (denatonium benzoate) be added to certain engine coolants and antifreeze to render them unpalatable. The purpose of adding a "bittering agent" to antifreeze would be to make it unpalatable to animals and children, in the hopes that they will not drink it and be poisoned. While the majority cares about animal health, we had several problems with the bill. First, it mandated only one bittering solution, even though there are multiple options available in the market. Second, it frees both the antifreeze manufacturers and chemical manufacturers from legal liability when the products are blended. Third, it includes multiple exclusions that watered down the desired impact of the bill. This mandate is not needed, and we encourage the antifreeze manufacturers to voluntarily offer "bittered" product for sale in the state. **Vote 8-7.**

Original: House Clerk
Cc: Committee Bill File

Stapler, Carol

From: Garrity, Jim
Sent: Tuesday, May 17, 2011 4:37 PM
To: Stapler, Carol
Subject: SB-55 Blurb

ITL

Rep. Sam Cataldo for the Majority.

This bill would have mandated that a specific chemical (denatonium benzoate) be added to certain engine coolants and antifreeze to render them unpalatable. The purpose of adding a "bittering agent" to antifreeze would be to make it unpalatable to animals and children, in the hopes that they will not drink it and be poisoned. While the majority cares about animal health, we had several problems with the bill. First, it mandated only one bittering solution, even though there are multiple options available in the market. Second, it frees both the antifreeze manufacturers and chemical manufacturers from legal liability when the products are blended. Third, it includes multiple exclusions that watered down the desired impact of the bill. This mandate is not needed, and we encourage the antifreeze manufacturers to voluntarily offer "bittered" product for sale in the state.

Approved

James M. Garrity
Chairman
House Science, Technology and Energy Committee
State Representative (Rockingham District 6 - Atkinson)
Office: 603-362-9416
Home: 603-362-8250
Email: Jim.Garrity@Leg.state.nh.us

5/18/2011