# MARPOL Annex V Compliance Report
# Product: IPAC Dustbind S826A Dust Suppressant
# OCTOBER 2021

Prepared for: SULTRAN Ltd

Attn: Antonio Canino

Manager of Terminal Operations and HSE

Prepared by: Tibor Horvath

Technical Manager

Dubois Chemicals Canada Inc.

## Summary

**IPAC Dustbind S826A is not classified as harmful to the marine environment (HME).**

**In addition, all components of IPAC Dustbind S826A are not classified as HME for any of the required criteria.**

## Introduction

As of January 1, 2015, all maritime shippers are required to completely classify their cargoes, and hence cargo residues, as “harmful to the marine environment” (HME) or not. In order to determine HME classification, seven criteria are utilized. These are listed in section 3.2 of the 2012 Guidelines for the implementation of MARPOL Annex V (2012 Guidelines), and based on the UN Globally Harmonized System for Classification and Labelling of Chemicals (UN GHS), fourth revised edition (2011).



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The seven criteria for classification are as follows:

1. Acute Aquatic Toxicity Category 1; and/or
2. Chronic Aquatic Toxicity Category 1 or 2; and/or
3. Carcinogenicity Category 1A or 1B combined with not being rapidly degradable and having high bioaccumulation; and/or
4. Mutagenicity Category 1A or 1B combined with not being rapidly degradable and having high bioaccumulation; and/or
5. Reproductive Toxicity Category 1A or 1B combined with not being rapidly degradable and having high bioaccumulation; and/or
6. Specific Target Organ Toxicity Repeated Exposure Category 1 combined with not being rapidly degradable and having high bioaccumulation.
7. Solid bulk cargoes containing or consisting of synthetic polymers, rubber, plastics, or plastic feedstock pellets (this includes materials that are shredded, milled, chopped or macerated or similar materials).

Clearly Criterion 7 does not apply to sulphur or IPAC Dustbind S826A, so this will not be considered in the classification.

As Dustbind S826A is a formulated mixture, the method for determining HME status is also found in UN Globally Harmonized System for Classification and Labelling of Chemicals (UN GHS), fourth revised edition (2011), Section 4.1.3 Classification Criteria for Mixtures.

Obviously if no component of IPAC Dustbind S826A met a particular criteria for categorization as HME, Dustbind S826A itself, as a mixture of these components, would not meet those criteria for that particular categorization.

This was in fact the case. In ***no instance*** did any component of IPAC Dustbind S826A reach the level of classification as HME in any of the criteria.

**Results**

1. Acute Aquatic Toxicity Category 1; and/or



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Criteria: Toxicity

**Category Acute 1:**

| Category | Level |
|---|---|
| 96 hr LC50 (for fish) | ≤ 1 mg/l and/or |
| 48 hr EC50 (for crustacea) | ≤ 1 mg/l and/or |
| 72 or 96 hr ErC50 (for algae or other aquatic plants) | ≤ 1 mg/l |

Result: No component of Dustbind S826A exceeds the threshold for classification as Acute Aquatic Toxicity Category 1 or 2..

2. Chronic Aquatic Toxicity Category 1 or 2

Criteria: Toxicity

**Category Chronic 1**

| | |
|---|---|
| Chronic NOEC or ECx (for fish) | ≤ 0.1 mg/l and/or |
| Chronic NOEC or ECx (for crustacea) | ≤ 0.1 mg/l and/or |
| Chronic NOEC or ECx (for algae or other aquatic plants) | ≤ 0.1 mg/l |

**Category Chronic 2:**

| | |
|---|---|
| 96 hr LC50 (for fish) | ≤ 1 mg/l and/or |
| 48 hr EC50 (for crustacea) | ≤ 1 mg/l and/or |



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| | |
|---|---|
| 72 or 96 hr ErC50 (for algae or other aquatic plants) | ≤ 1 mg/l |

Result: No component of Dustbind S826A exceeds the threshold for classification as Chronic Aquatic Toxicity Category 1 or 2.

3. Carcinogenicity Category 1A or 1B combined with not being rapidly degradable and having high bioaccumulation

   Criteria: Carcinogenicity

   **Category 1A:** Known to have carcinogenic potential for humans; the placing of a substance is largely based on human evidence.

   **Category 1B:** Presumed to have carcinogenic potential for humans; the placing of a substance is largely based on animal evidence.

   Result: No component of Dustbind S826A is either known or presumed to have carcinogenic potential for humans, based on human or animal evidence, combined with being not rapidly degradable or having high bioaccumulation.

4. Mutagenicity Category 1A or 1B combined with not being rapidly degradable and having high bioaccumulation

   Criteria: Mutagenicity

   **Category 1A:** Substances known to induce heritable mutations in germ cells of humans.

   **Category 1B:** Substances which should be regarded as if they induce heritable mutations in the germ cells of humans.

   **Result:** No component of Dustbind S826A is either known to induce or should be regarded as if they induce heritable mutations in the germ cells of humans, combined with not being rapidly degradable or having high bioaccumulation.



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5. Reproductive Toxicity Category 1A or 1B combined with not being rapidly degradable and having high bioaccumulation

   Criteria: Reproductive Toxicants

   **Category 1A:** Known human reproductive toxicant.

   **Category 1B:** Presumed human reproductive toxicant.

   **Result:** No component of Dustbind S826A is either a known or presumed human reproductive toxicant combined with not being rapidly degradable or having high bioaccumulation.

6. Specific Target Organ Toxicity Repeated Exposure Category 1 combined with not being rapidly degradable and having high bioaccumulation

   Criteria: STOT-RE (Specific Target Organ Toxicity following Repeated Exposure)

   **Category 1:** Substances that have produced significant toxicity in humans, or that, on the basis of evidence from studies in experimental animals can be presumed to have the potential to produced significant toxicity in humans following repeated exposure.

   **Category 2:** Substances that, on the basis of evidence from studies in experimental animals can be presumed to have the potential to be harmful to human health following repeated exposure.

   **Result:** No component in Dustbind S826A is known to have or presumed to have produced significant toxicity in humans following repeated exposure, combined with not being rapidly degradable or having high bioaccumulation.

**Representative References**

Agency for Toxic Substances & Disease Registry: Priority List of Hazardous Substances http://www.atsdr.cdc.gov/spl/index.html

California Proposition 65 (Prop 65) http://oehha.ca.gov/prop65.html



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Environment Canada Domestic Substances (DSL) List
http://www.ec.gc.ca/lcpecepa/eng/subs_list/DSL/DSLsearch.cfm

Environment Canada, CEP Environmental Registry, Toxic Substances List
http://www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=0DA2924D-1

European Chemical Agency (ECHA) Inventory Database
http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database

United States Centers for Disease Control/National Institute for Occupational Safety and Health Int. Chemical Safety Cards
http://www.cdc.gov/niosh/ipcsneng/neng0991.html

United States National Library of Medicine, Toxnet Toxicology Data Network
http://toxnet.nlm.nih.gov/

United States Occupational Health and Safety Administration chemical information: https://www.osha.gov/html/a-z-index.html

United States National Toxicology Program Report on Carcinogens
http://ntp.niehs.nih.gov/



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# MARPOL Annex V Compliance Report
# Products: IPAC EAC and IPAC EAC WG Dust Suppressants
# OCTOBER 2021

Prepared for: SULTRAN Ltd
Attn: Antonio Canino
Manager of Terminal Operations and HSE

Prepared by: Tibor Horvath
Technical Manager
Dubois Chemicals Canada Inc.

## Summary

**IPAC EAC and IPAC EAC WG are not classified as harmful to the marine environment.**

**In addition, all components of IPAC EAC and EAC WG are not classified as HME for any of the required criteria.**

## Introduction

***NOTE:*** *For this report, products IPAC EAC and IPAC EAC WG will be collectively referred to as "IPAC EAC".*

As of January 1, 2015, all maritime shippers are required to completely classify their cargoes, and hence cargo residues, as "harmful to the marine environment" (HME) or not. In order to determine HME classification, seven criteria are utilized. These are listed in section 3.2 of the 2012 Guidelines for the implementation of MARPOL Annex V (2012 Guidelines), and based on the UN



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Globally Harmonized System for Classification and Labelling of Chemicals (UN GHS), fourth revised edition (2011).

The seven criteria for classification are as follows:

1. Acute Aquatic Toxicity Category 1; and/or
2. Chronic Aquatic Toxicity Category 1 or 2; and/or
3. Carcinogenicity Category 1A or 1B combined with not being rapidly degradable and having high bioaccumulation; and/or
4. Mutagenicity Category 1A or 1B combined with not being rapidly degradable and having high bioaccumulation; and/or
5. Reproductive Toxicity Category 1A or 1B combined with not being rapidly degradable and having high bioaccumulation; and/or
6. Specific Target Organ Toxicity Repeated Exposure Category 1 combined with not being rapidly degradable and having high bioaccumulation.
7. Solid bulk cargoes containing or consisting of synthetic polymers, rubber, plastics, or plastic feedstock pellets (this includes materials that are shredded, milled, chopped or macerated or similar materials).

Clearly Criterion 7 does not apply to sulphur or IPAC EAC, so this will not be considered in the classification.

As IPAC EAC is a formulated mixture, the method for determining HME status is also found in UN Globally Harmonized System for Classification and Labelling of Chemicals (UN GHS), fourth revised edition (2011), Section 4.1.3 Classification Criteria for Mixtures.

Obviously if no component of IPAC EAC met a particular criteria for categorization as HME, IPAC EAC itself, as a mixture of these components, would not meet those criteria for that particular categorization.

This was in fact the case. In ***no instance*** did any component of IPAC EAC reach the level of classification as HME in any of the criteria.



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## Results

1. Acute Aquatic Toxicity Category 1; and/or Criteria:

   **Category Acute 1:**

| Category | Level |
|---|---|
| 96 hr LC50 (for fish) | ≤ 1 mg/l and/or |
| 48 hr EC50 (for crustacea) | ≤ 1 mg/l and/or |
| 72 or 96 hr ErC50 (for algae or other aquatic plants) | ≤ 1 mg/l |

   Result: No component of IPAC EAC exceeds the threshold for classification as Acute Aquatic Toxicity Category 1 or 2.

2. Chronic Aquatic Toxicity Category 1 or 2

   Criteria: Toxicity

   **Category Chronic 1**

| | |
|---|---|
| Chronic NOEC or ECx (for fish) | ≤ 0.1 mg/l and/or |
| Chronic NOEC or ECx (for crustacea) | ≤ 0.1 mg/l and/or |
| Chronic NOEC or ECx (for algae or other aquatic plants) | ≤ 0.1 mg/l |

   **Category Chronic 2:**

| | |
|---|---|
| 96 hr LC50 (for fish) | ≤ 1 mg/l and/or |



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| | |
|---|---|
| 48 hr EC50 (for crustacea) | ≤ 1 mg/l and/or |
| 72 or 96 hr ErC50 (for algae or other aquatic plants) | ≤ 1 mg/l |

Result: No component of IPAC EAC exceeds the threshold for classification as Chronic Aquatic Toxicity Category 1 or 2.

3. Carcinogenicity Category 1A or 1B combined with not being rapidly degradable and having high bioaccumulation

   Criteria: Carcinogenicity

   **Category 1A:** Known to have carcinogenic potential for humans; the placing of a substance is largely based on human evidence.

   **Category 1B:** Presumed to have carcinogenic potential for humans; the placing of a substance is largely based on animal evidence.

   Result: No component of IPAC EAC is either known or presumed to have carcinogenic potential for humans, based on human or animal evidence, combined with being not rapidly degradable or having high bioaccumulation.

4. Mutagenicity Category 1A or 1B combined with not being rapidly degradable and having high bioaccumulation

   Criteria: Mutagenicity

   **Category 1A:** Substances known to induce heritable mutations in germ cells of humans.

   **Category 1B:** Substances which should be regarded as if they induce heritable mutations in the germ cells of humans.

   Result: No component of IPAC EAC is either known to induce or should be regarded as if they induce heritable mutations in the germ cells of



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humans, combined with not being rapidly degradable or having high bioaccumulation.

5. Reproductive Toxicity Category 1A or 1B combined with not being rapidly degradable and having high bioaccumulation

   Criteria: Reproductive Toxicants

   **Category 1A:** Known human reproductive toxicant.

   **Category 1B:** Presumed human reproductive toxicant.

   Result: No component of IPAC EAC is either a known or presumed human reproductive toxicant combined with not being rapidly degradable or having high bioaccumulation.

6. Specific Target Organ Toxicity Repeated Exposure Category 1 combined with not being rapidly degradable and having high bioaccumulation

   Criteria: STOT-RE (Specific Target Organ Toxicity following Repeated Exposure)

   **Category 1:** Substances that have produced significant toxicity in humans, or that, on the basis of evidence from studies in experimental animals can be presumed to have the potential to produced significant toxicity in humans following repeated exposure.

   **Category 2:** Substances that, on the basis of evidence from studies in experimental animals can be presumed to have the potential to be harmful to human health following repeated exposure.

   Result: No component in IPAC EAC is known to have or presumed to have produced significant toxicity in humans following repeated exposure, combined with not being rapidly degradable or having high bioaccumulation.



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**Representative References**


Agency for Toxic Substances & Disease Registry: Priority List of Hazardous Substances http://www.atsdr.cdc.gov/spl/index.html

California Proposition 65 (Prop 65) http://oehha.ca.gov/prop65.html

Environment Canada Domestic Substances (DSL) List
http://www.ec.gc.ca/lcpecepa/eng/subs_list/DSL/DSLsearch.cfm

Environment Canada, CEP Environmental Registry, Toxic Substances List
http://www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=0DA2924D-1

European Chemical Agency (ECHA) Inventory Database
http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database

United States Centers for Disease Control/National Institute for Occupational Safety and Health Int. Chemical Safety Cards
http://www.cdc.gov/niosh/ipcsneng/neng0991.html

United States National Library of Medicine, Toxnet Toxicology Data Network
http://toxnet.nlm.nih.gov/

United States Occupational Health and Safety Administration chemical information: https://www.osha.gov/html/a-z-index.html

United States National Toxicology Program Report on Carcinogens
http://ntp.niehs.nih.gov/




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