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29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : Optiphen™ ND preservative
 ™ Trademark, Ashland or its subsidiaries, registered in various countries

Relevant identified uses of the substance or mixture and uses advised against

Recommended use : Preservative

<p>Details of the supplier of the safety data sheet Ashland P.O. Box 2219 Columbus, OH 43216 United States of America (USA) +1-614-790-3333</p> <p>EHSProductSafety@ashland.com</p>	<p>Emergency telephone number 1-800-ASHLAND (1-800-274-5263)</p> <p>Regulatory Information Number 1-800-325-3751</p> <p>Product Information +1-614-790-3333</p>
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SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4

Skin irritation : Category 2

Serious eye damage : Category 1

Specific target organ systemic toxicity - repeated exposure (Inhalation) : Category 1 (Lungs)

GHS label elements

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Hazard pictograms

:



Signal Word

: Danger

Hazard Statements

: Harmful if swallowed.
 Causes skin irritation.
 Causes serious eye damage.
 Causes damage to organs (Lungs) through prolonged or
 repeated exposure if inhaled.

Precautionary Statements

: **Prevention:**
 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
 Wash skin thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Wear protective gloves/ eye protection/ face protection.
Response:
 IF SWALLOWED: Call a POISON CENTER/doctor if you feel
 unwell. Rinse mouth.
 IF ON SKIN: Wash with plenty of soap and water.
 IF IN EYES: Rinse cautiously with water for several minutes.
 Remove contact lenses, if present and easy to do. Continue
 rinsing. Immediately call a POISON CENTER/doctor.
 Get medical advice/ attention if you feel unwell.
 If skin irritation occurs: Get medical advice/ attention.
 Take off contaminated clothing and wash before reuse.
Disposal:
 Dispose of contents/ container to an approved waste disposal
 plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Classification	Concentration (%)
2-PHENOXYETHANOL	122-99-6	Acute Tox. 4; H302 Eye Irrit. 2A; H319	80.00




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BENZOIC ACID	65-85-0	Comb Dust Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT RE 1; H372	12.00
3-ACETYL-6-METHYL-2H-PYRAN-2,4(3H)-DIONE	520-45-6	Acute Tox. 4; H302	8.00

SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
- If inhaled : If breathed in, move person into fresh air.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.
- In case of skin contact : Remove contaminated clothing. If irritation develops, get medical attention.
If on skin, rinse well with water.
Wash contaminated clothing before re-use.
- In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.
- If swallowed : Obtain medical attention.
Do NOT induce vomiting.
Rinse mouth with water.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:

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stomach or intestinal upset (nausea, vomiting, diarrhea)
 irritation (nose, throat, airways)
 Cough
 pain in the abdomen and lower back
 Shortness of breath
 acute kidney failure (sudden slowing or stopping of urine
 production)
 Convulsions
 Harmful if swallowed.
 Causes skin irritation.
 Causes serious eye damage.
 Causes damage to organs through prolonged or repeated
 exposure if inhaled.

Notes to physician : No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local
 circumstances and the surrounding environment.
 Water spray
 Foam
 Carbon dioxide (CO₂)
 Dry chemical
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during firefighting : If product is heated above its flash point it will produce vapors
 sufficient to support combustion. Vapors are heavier than air
 and may travel along the ground and be ignited by heat, pilot
 lights, other flames and ignition sources at locations near the
 point of release.
 Do not allow run-off from fire fighting to enter drains or water
 courses.
- Hazardous combustion products : carbon dioxide and carbon monoxide
 Hydrocarbons
 acrid smoke and fumes
- Specific extinguishing methods :
- Product is compatible with standard fire-fighting agents.



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Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

Other information : Comply with all applicable federal, state, and local regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Do not breathe vapours/dust.
Do not smoke.
Container hazardous when empty.
Avoid contact with skin and eyes.
Smoking, eating and drinking should be prohibited in the application area.
For personal protection see section 8.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.

Protect from frost.

Storage temperature : 5 - 25 °C

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

Hazardous components without workplace control parameters

Components	CAS-No.
2-PHENOXYETHANOL	122-99-6
BENZOIC ACID	65-85-0
3-ACETYL-6-METHYL-2H-PYRAN-2,4(3H)-DIONE	520-45-6

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection : A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Hand protection

Remarks

: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection

: Wear chemical splash goggles and face shield when there is potential for exposure of the eyes or face to liquid, vapor or mist.
 Maintain eye wash station in immediate work area.

Skin and body protection

: Wear as appropriate:
 Impervious clothing
 Safety shoes
 Choose body protection according to the amount and concentration of the dangerous substance at the work place.
 Discard gloves that show tears, pinholes, or signs of wear.
 Wear resistant gloves (consult your safety equipment supplier).



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Hygiene measures : Wash hands before breaks and at the end of workday.
When using do not eat or drink.
When using do not smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Physical state : liquid

Colour : yellow

Odour : noticeable

Odour Threshold : No data available

pH : 4 (20 °C)

Melting point/freezing point : No data available

Boiling point/boiling range : > 302 °F / > 150 °C

Flash point : 130 °C

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Upper explosion limit : No data available

Lower explosion limit : No data available

Vapour pressure : < 1 hPa

Relative vapour density : No data available

Relative density : No data available

Density : ca. 1.13 g/cm³ (20 °C)

Solubility(ies)
Water solubility : 5 g/l (20 °C)



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Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Thermal decomposition	: No data available
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Oxidizing properties	: No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: Stable under recommended storage conditions.
Possibility of hazardous reactions	: Product will not undergo hazardous polymerization.
Conditions to avoid	: excessive heat Do not allow evaporation to dryness.
Incompatible materials	: Reducing agents Strong bases Strong oxidizing agents
Hazardous decomposition products	carbon dioxide and carbon monoxide Hydrocarbons

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	: Inhalation Skin contact Eye Contact Ingestion
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Acute toxicity



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Harmful if swallowed.

Components:

2-PHENOXYETHANOL:

Acute oral toxicity : LD50 (Rat): 1,850 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : Assessment: No adverse effect has been observed in acute inhalation toxicity tests.

Acute dermal toxicity : LD50 (Rat): 14,391 mg/kg

BENZOIC ACID:

Acute oral toxicity : LD50 (Rat): ca. 2,565 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 12.2 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Assessment: No adverse effect has been observed in acute dermal toxicity tests.

3-ACETYL-6-METHYL-2H-PYRAN-2,4(3H)-DIONE:

Acute oral toxicity : LD50 (Rat): 570 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Product:

Remarks: May cause skin irritation and/or dermatitis.

Components:

2-PHENOXYETHANOL:

Species: Rabbit

Result: No skin irritation

BENZOIC ACID:

Result: Irritating to skin.

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Remarks: May cause irreversible eye damage.

Components:



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2-PHENOXYETHANOL:

Species: Rabbit

Result: Irritating to eyes.

BENZOIC ACID:

Species: Rabbit

Result: Corrosive

Respiratory or skin sensitisation

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

Components:**2-PHENOXYETHANOL:**

Species: Guinea pig

Assessment: Does not cause skin sensitisation.

Method: OECD Test Guideline 406

BENZOIC ACID:

Test Type: Local lymph node assay

Species: Mouse

Assessment: Does not cause skin sensitisation.

Germ cell mutagenicity

Not classified based on available information.

Components:**2-PHENOXYETHANOL:**

Genotoxicity in vitro

: Test Type: Ames test

Test species: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Result: negative

BENZOIC ACID:

Genotoxicity in vitro

: Test Type: Ames test

Test species: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Result: negative

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

Components:**2-PHENOXYETHANOL:**Effects on foetal
development

: Test Type: Pre-natal

Species: Rat

Application Route: Oral



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General Toxicity Maternal: No observed adverse effect level:
ca. 300 mg/kg bw/day
Method: OPPTS 870.3700

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Causes damage to organs (Lungs) through prolonged or repeated exposure if inhaled.

Components:

BENZOIC ACID:

Exposure routes: Inhalation

Target Organs: Lungs

Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

Repeated dose toxicity

Components:

2-PHENOXYETHANOL:

Species: Rat, male and female

NOAEL: 369 mg/kg

Application Route: Oral

Method: OECD Test Guideline 408

Species: Rabbit, male and female

NOAEL: 500 mg/kg

Application Route: Dermal

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks: No data available

Carcinogenicity:

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.



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SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Ecotoxicology Assessment

Acute aquatic toxicity : Not classified based on available information.

Chronic aquatic toxicity : Not classified based on available information.

Components:

2-PHENOXYETHANOL:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 337 - 352 mg/l
Exposure time: 96 h
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 500 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae : NOEC (Desmodesmus subspicatus (green algae)): > 500 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 23 mg/l
Exposure time: 34 d
Test Type: flow-through test
Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia (water flea)): 9.43 mg/l
Exposure time: 21 d
End point: Reproduction Test
Test Type: semi-static test
Method: OECD Test Guideline 211

BENZOIC ACID:

Toxicity to fish : LC50 (Gambusia affinis (Mosquito fish)): 240 mg/l
Exposure time: 24 h
Method: Static
Remarks: Mortality

LC50 (Lepomis macrochirus (Bluegill sunfish)): 44.6 mg/l
Exposure time: 96 h



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- Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
- Toxicity to algae : NOEC (Pseudokirchneriella subcapitata (green algae)): 10 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
- Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): > 120 mg/l
Exposure time: 28 d
Test Type: semi-static test
Method: OECD Test Guideline 204
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): >= 25 mg/l
Exposure time: 21 d
Test Type: semi-static test
Method: OECD Test Guideline 211

Persistence and degradability

Components:

2-PHENOXYETHANOL:

- Biodegradability : Result: Readily biodegradable.
Biodegradation: 99 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

BENZOIC ACID:

- Biodegradability : Result: Readily biodegradable.

No data available

Bioaccumulative potential

Components:

2-PHENOXYETHANOL:

- Partition coefficient: n-octanol/water : log Pow: 1.16

BENZOIC ACID:

- Bioaccumulation : Species: Gambusia affinis (Mosquito fish)
Bioconcentration factor (BCF): 21
Exposure time: 24 h
Concentration: 0.00178 mg/l
Method: Static

- Partition coefficient: n-octanol/water : log Pow: 1.87



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No data available

Mobility in soil

Components:

No data available

Other adverse effects

Product:

Additional ecological information : No data available

Components:

2-PHENOXYETHANOL:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

: This substance is not considered to be very persistent and very bioaccumulating (vPvB).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

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MX_DG

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

TDG_INWT_C

Not dangerous goods

TDG_RAIL_C

Not dangerous goods

TDG_ROAD_C

Not dangerous goods

U.S. DOT - INLAND WATERWAYS

Not dangerous goods

CFR_RAIL_C

Not dangerous goods

U.S. DOT - ROAD

Not dangerous goods

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant

no



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Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
BENZOIC ACID	65-85-0	5000	41667

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 The following components are subject to reporting levels established by SARA Title III, Section 313:
2-PHENOXYETHANOL 122-99-6 80.00 %

California Prop 65 This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

DSL : All components of this product are on the Canadian DSL

AICS : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

TSCA : On TSCA Inventory

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Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

SECTION 16. OTHER INFORMATION**Further information**

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NFPA:	HMIS III:						
<p style="text-align: center;">Flammability</p> <p style="text-align: center;">Special hazard.</p>	<table border="1" style="width: 100%;"> <tr> <td style="background-color: blue; color: white;">HEALTH</td> <td style="text-align: center;">3*</td> </tr> <tr> <td style="background-color: red; color: white;">FLAMMABILITY</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="background-color: yellow; color: black;">PHYSICAL HAZARD</td> <td style="text-align: center;">0</td> </tr> </table> <p>0 = not significant, 1 = Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic</p>	HEALTH	3*	FLAMMABILITY	1	PHYSICAL HAZARD	0
HEALTH	3*						
FLAMMABILITY	1						
PHYSICAL HAZARD	0						


NFPA Flammable and Combustible Liquids Classification

Combustible Liquid Class IIIB

Full text of H-Statements

H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H372	Causes damage to organs through prolonged or repeated exposure if inhaled.

Sources of key data used to compile the Safety Data Sheet
 Ashland internal data including own and sponsored test reports
 The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

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The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative