

SAFETY DATA SHEET

Issue Date 19-Oct-2016 Revision Date 01-Nov-2017 Version 5.2 Page 1 / 18

1. IDENTIFICATION

Product identifier

Product Name DPD Total Chlorine Reagent

Other means of identification

Product Code(s) 2105669

Safety data sheet number M00110

HMRIC # HMIRA Registry Number 9936 Filed 2016-04-11

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory reagent. Indicator for total chlorine.

Uses advised against None. Restrictions on use None.

Details of the supplier of the safety data sheet

Manufacturer Address

Hach Company P.O.Box 389 Loveland, CO 80539 USA +1(970) 669-3050

Emergency telephone number

+1(303) 623-5716 - 24 Hour Service +1(515)232-2533 - 8am - 4pm CST

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| Skin corrosion/irritation | Category 2 |
|-----------------------------------|-------------|
| Serious eye damage/eye irritation | Category 2A |

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word - Warning



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Hazard statements

H315 - Causes skin irritation

H319 - Causes serious eye irritation

Precautionary statements

P280 - Wear protective gloves

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P362 - Take off contaminated clothing and wash before reuse

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/attention

Other Information

Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical Family

Mixture.

Percent ranges are used where confidential product information is applicable.

| Chemical name | CAS No. | Percent Range | HMRIC # |
|---|-----------|------------------|---------|
| Sodium phosphate dibasic | 7558-79-4 | 20 - 30% | 1 |
| Potassium iodide (KI) | 7681-11-0 | 20 - 30% | 1 |
| DPD Salt | - | 1 - 5% | 1 |
| Glycine, N,N-1,2-ethanediylbis[N-(carboxymethyl)-, disodium salt, dihydrate | 6381-92-6 | <1% | - |

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4. FIRST AID MEASURES

Description of first aid measures

General advice IF IN EYES: Flush eyes for at least 15 minutes. May cause skin irritation.

Eve contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing. If eye irritation persists: Get medical

advice/attention.

Skin contact For minor skin contact, avoid spreading material on unaffected skin. IF ON SKIN (or hair):

Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Remove and isolate contaminated clothing and shoes. Call a POISON CENTER or doctor if you feel unwell. If skin irritation persists, call a

physician.

Inhalation Aspiration into lungs can produce severe lung damage.

Ingestion Never give anything by mouth to an unconscious person. Clean mouth with water and drink

afterwards plenty of water. Remove from exposure, lie down. Call a POISON CENTER or

doctor/physician if you feel unwell. Do not induce vomiting without medical advice.

of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed

Symptoms See Section 11: TOXICOLOGICAL INFORMATION.

Indication of any immediate medical attention and special treatment needed

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Flammable properties

During a fire, this product decomposes to form toxic gases.

Specific hazards arising from the chemical

None reported.

Hazardous combustion products Carbon monoxide, Carbon dioxide. Iodine compounds.

Phosphorus oxides. Potassium oxides. Sodium monoxide.

Nitrogen oxides.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

U.S. NoticeOnly persons properly qualified to respond to an emergency involving hazardous

substances may respond to a spill according to federal regulations (OSHA 29 CFR

1910.120(a)(v)) and per your company's emergency response plan and

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guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Do not touch or walk through spilled material. Ventilate

affected area. Use personal protective equipment as required.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so. Cover with plastic sheet to prevent

spreading.

Methods for cleaning up

Take up mechanically, placing in appropriate containers for disposal. Clean contaminated

surface thoroughly. Dispose of in accordance with local, state and federal regulations or

laws.

Emergency Response Guide Number

Not applicable

7. HANDLING AND STORAGE

Precautions for safe handling

Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly

labeled containers.

Flammability class Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|-----------------------------------|---------------|----------|------------|
| Potassium iodide (KI) 20 - 30% | TWA: 0.01 ppm | NDF | NDF |

| Chemical name | Alberta OEL | British Columbia | Manitoba OEL | New Brunswick | New Foundland & |
|-----------------------------------|-------------|------------------|---------------|---------------|-----------------|
| | | OEL | | OEL | Labrador OEL |
| Potassium iodide (KI) 20 - 30% | NDF | NDF | TWA: 0.01 ppm | NDF | TWA: 0.01 ppm |

| Chemical name | Northwest Territories OEL | Nova Scotia OEL | Nunavut OEL | Ontario TWA | Prince Edward Island OEL |
|-----------------------------------|------------------------------|-----------------|-------------|---------------|--------------------------|
| Potassium iodide (KI) 20 - 30% | NDF | TWA: 0.01 ppm | NDF | TWA: 0.01 ppm | TWA: 0.01 ppm |

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Legend See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls Showers

Eyewash stations Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Wear tight sealing safety goggles and/or face protection shield. Avoid contact with eyes.

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

General Hygiene Considerations Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Wear suitable gloves and eye/face protection. Wash face, hands and any exposed skin thoroughly after handling. Regular cleaning of equipment, work area and clothing is recommended. Handle in accordance with good industrial hygiene and safety practice. Avoid prolonged or repeated contact with skin. Take off all contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product. Keep away from food,

drink and animal feeding stuffs.

Environmental exposure controls

Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Solid

Gas Under Pressure Not classified according to GHS criteria

Appearance powder Color White to light pink

Odor Odorless Odor threshold No data available

<u>Property</u> <u>Values</u> <u>Remarks • Method</u>

Molecular weight No data available

pH No data available

Melting point/freezing point 145 °C / 293 °F

Boiling point / boiling range No data available

Evaporation rate Not applicable

Vapor pressure Not applicable

Vapor density (air = 1) Not applicable

Specific gravity (water = 1 / air = 1) 1.79

Partition Coefficient (n-octanol/water) log Kow ~ 0

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Decomposition temperature

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Soil Organic Carbon-Water Partition

Coefficient

Autoignition temperature No data available

Dynamic viscosity Not applicable

Kinematic viscosity Not applicable

Solubility(ies)

Water solubility

| Water solubility classification | Water solubility | Water Solubility Temperature |
|---------------------------------|------------------|------------------------------|
| Soluble | > 1000 mg/L | 25 °C / 77 °F |

log Koc ~ 0

No data available

Solubility in other solvents

| Chemical Name | Solubility classification | <u>Solubility</u> | Solubility Temperature | |
|---------------|---------------------------|-------------------|--------------------------|--|
| None reported | No information available | No data available | No information available | |

Other Information

Metal Corrosivity

Not classified as corrosive to metal according to GHS criteria

Steel Corrosion Rate 0.97 mm/yr / 0.04 in/yr

Aluminum Corrosion Rate 0.15 mm/yr / 0.01 in/yr

Volatile Organic Compounds (VOC) Content Not applicable.

Bulk density

No data available

Explosive properties Not classified according to GHS criteria.

Explosion data No data available

Upper explosion limit No data available

Lower explosion limit No data available

Flammable properties During a fire, this product decomposes to form toxic gases.

Flammability Limit in Air

Upper flammability limit: No data available

Lower flammability limit: No data available

Flash point Not applicable

Method No information available

Oxidizing properties Not classified according to GHS criteria.

Reactivity propeties Not classified as self-reactive, pyrophoric, self-heating or emitting

flammable gases in contact with water according to GHS criteria.

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10. STABILITY AND REACTIVITY

Reactivity propeties

Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria

Chemical stability

Stable under recommended storage conditions.

Special dangers of the product

None reported

Possibility of Hazardous Reactions

None under normal processing.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid

Extremes of temperature and direct sunlight. Incompatible materials.

Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases.

Hazardous Decomposition Products

Carbon dioxide. Carbon monoxide. Iodine compounds. Phosphorus oxides. Potassium oxide. Nitrogen oxides.

Explosive properties

Not classified according to GHS criteria.

Upper explosion limit No data available

Lower explosion limit No data available

Autoignition temperature

No data available

Sensitivity to Static Discharge

None reported

Sensitivity to Mechanical Impact

None reported

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

| Product Information | Causes skin irritation. Causes serious eye irritation. May be |
|--------------------------------------|--|
| | harmful if swallowed. |
| Inhalation | No known effect based on information supplied. |
| Eye contact | Contact with eyes may cause irritation. Severely irritating to |
| | eyes. |
| Skin contact | Causes skin irritation. |
| Ingestion | May be harmful if swallowed. Ingestion may cause irritation to |
| | mucous membranes. |
| Aggravated Medical Conditions | Skin disorders. Eye disorders. |
| Toxicologically synergistic products | None known. |

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| Toxicokinetics, meta | bolism and distribution See ingredients information below. |
|-----------------------|---|
| Chemical name | Toxicokinetics, metabolism and distribution |
| Sodium phosphate | Phosphates are widely utilized by cells for metabolism of proteins, fats and carbohydrates. |
| dibasic | |
| (20 - 30%) | |
| CAS#: 7558-79-4 | |
| Potassium iodide (KI) | May cross placenta and be excreted in breast milk. May react synergistically with mercury. |
| (20 - 30%) | |
| CAS#: 7681-11-0 | |
| Glycine, | EDTA and related compounds are poorly absorbed by the digestive system. |
| N,N-1,2-ethanediylbis | |
| [N-(carboxymethyl)-, | |
| disodium salt, | |
| dihydrate | |
| (<1%) | |
| CAS#: 6381-92-6 | |

Product Acute Toxicity Data Oral Exposure Route

Test data reported below

| Endpoint type | Reported dose | Toxicological | Key literature references and sources for data |
|------------------|---------------|----------------------|--|
| Rat | 4700 mg/kg | <u>effects</u> | Outside testing |
| LD ₅₀ | | Behavioral | |
| | | Flaccid muscle | |
| | | tone | |
| | | Lethargy | |
| | | Prostration | |
| | | Eye | |
| | | Chromodacryorrhe | |
| | | a | |
| | | Ptosis | |
| | | Gastrointestinal | |
| | | Abnormalities of | |
| | | the gastrointestinal | |
| | | tract | |
| | | Diarrhea | |
| | | Liver | |
| | | Abnormalities of | |
| | | the liver | |
| | | Lungs, Thorax, | |
| | | or Respiration | |
| | | Abnormalities of | |
| | | the lungs | |
| | | Dyspnea | |
| | | Red or brown | |
| | | staining of the | |
| | | nose/mouth area | |
| | | Nutritional and | |
| | | Gross Metabolic | |
| | | Soiling of the | |
| | | anogenital area | |
| | | Wetness of the | |
| | | anogenital area | |
| | | Reproductive | |
| | | Skin and | |
| | | Appendages | |
| <u></u> | | Piloerection | |

Dermal Exposure Route Inhalation (Dust/Mist) Exposure Route Inhalation (Vapor) Exposure Route Inhalation (Gas) Exposure Route No data available No data available No data available No data available

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Acute Toxicity Estimations (ATE)

Ingredient Acute Toxicity Data

| Dral Exposure Route If available, see data below | | | | | |
|--|---------------------------|---------------|------------------|-----------------------|--|
| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
| Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0 | Rat LD ₅₀ | 2779 mg/kg | None reported | None reported | RTECS (Registry of Toxic Effects of Chemical Substances) |
| DPD Salt (1 - 5%) CAS#: - | Rat LD ₅₀ | 695 mg/kg | None reported | None reported | No information available |
| Glycine, N,N-1,2-ethanediylbis [N-(carboxymethyl)-, disodium salt, dihydrate (<1%) CAS#: 6381-92-6 | Rat LD₅o | 2000 mg/kg | None reported | None reported | RTECS (Registry of Toxic Effects of Chemical Substances) |
| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
| Sodium phosphate dibasic (20 - 30%) CAS#: 7558-79-4 | Rat LD ₅₀ | 17000 mg/kg | None reported | None reported | RTECS (Registry of Toxic Effects of Chemical Substances) |
| Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0 | Mouse LD ₅₀ | 1000 mg/kg | None reported | None reported | Vendor SDS |
| DPD Salt (1 - 5%) CAS#: - | Rat LD ₅₀ | 970 mg/kg | None reported | None reported | No information available |
| Glycine, N,N-1,2-ethanediylbis [N-(carboxymethyl)-, disodium salt, dihydrate (<1%) CAS#: 6381-92-6 | LD50 | 2300 mg/kg | None reported | None reported | RTECS (Registry of Toxic Effects of Chemical Substances) |

Dermal Exposure Route Inhalation (Dust/Mist) Exposure Route Inhalation (Vapor) Exposure Route Inhalation (Gas) Exposure Route

If available, see data below If available, see data below If available, see data below If available, see data below

Product Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route

Dermal Exposure Route No data available Inhalation (Dust/Mist) Exposure Route No data available Inhalation (Vapor) Exposure Route No data available Inhalation (Gas) Exposure Route No data available

Ingredient Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route If available, see data below

| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|-----------------------|---------------|---------------|---------------|-----------------------|--|
| Potassium iodide (KI) | Mouse | 1862 mg/kg | None | Lungs, Thorax, or | RTECS (Registry of Toxic |
| (20 - 30%) | LDLo | | reported | Respiration | Effects of Chemical |
| CAS#: 7681-11-0 | | | | Dyspnea | Substances) |

If available, see data below **Dermal Exposure Route** Inhalation (Dust/Mist) Exposure Route If available, see data below

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Inhalation (Vapor) Exposure Route Inhalation (Gas) Exposure Route

If available, see data below If available, see data below

Aspiration toxicity
If available, see data below
Kinematic viscosity

Not applicable

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Skin Corrosion/Irritation Data

If available, see data below

| Chemical name | Test method | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|--|-------------------------|---------|------------------|------------------|-------------------------------------|--|
| Sodium phosphate dibasic (20 - 30%) CAS#: 7558-79-4 | Standard Draize Test | Rabbit | 500 mg | 24 hours | Skin irritant | RTECS (Registry of Toxic Effects of Chemical Substances) |
| Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0 | Standard Draize Test | Rabbit | None reported | None reported | Skin irritant | No information available |
| Glycine, N,N-1,2-ethanediylbis [N-(carboxymethyl)-, disodium salt, dihydrate (<1%) CAS#: 6381-92-6 | Standard Draize Test | Rabbit | 500 mg | 20 hours | Not corrosive or irritating to skin | ECHA (The European Chemicals Agency) |

Product Serious Eye Damage/Eye Irritation Data

No data available.

Ingredient Eye Damage/Eye Irritation Data

If available, see data below

| Chemical name | Test method | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|--|-------------------------|---------|------------------|------------------|-------------------|--|
| Sodium phosphate dibasic (20 - 30%) CAS#: 7558-79-4 | Standard Draize Test | Rabbit | 500 mg | 24 hours | Eye irritant | RTECS (Registry of Toxic Effects of Chemical Substances) |
| Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0 | None reported | Rabbit | None reported | None reported | Eye irritant | HSDB (Hazardous Substances Data Bank) |
| Glycine, N,N-1,2-ethanediylbis [N-(carboxymethyl)-, disodium salt, dihydrate (<1%) CAS#: 6381-92-6 | Standard Draize Test | Rabbit | 50 mg | None reported | Mild eye irritant | ECHA (The European Chemicals Agency) |

Sensitization Information

<u>Product Sensitization Data</u>
Skin Sensitization Exposure Route
Respiratory Sensitization Exposure Route

No data available. No data available.

Ingredient Sensitization Data
Skin Sensitization Exposure Route

If available, see data below.

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| Chemical name | Test method | Species | Results | Key literature references and sources for data |
|--|-------------|---------|---------------------------------------|--|
| Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0 | Patch test | Human | Not confirmed to be a skin sensitizer | ERMA (New Zealands Environmental Risk Management Authority) |

Respiratory Sensitization Exposure Route

If available, see data below.

Chronic Toxicity Information

Product Specific Target Organ Toxicity Repeat Dose Data

Oral Exposure Route

Dermal Exposure Route

Inhalation (Dust/Mist) Exposure Route

Inhalation (Vapor) Exposure Route

Inhalation (Gas) Exposure Route

No data available.

No data available.

No data available.

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Oral Exposure Route
Dermal Exposure Route
If available, see data below
Inhalation (Dust/Mist) Exposure Route
Inhalation (Vapor) Exposure Route
Inhalation (Gas) Exposure Route
If available, see data below
Inhalation (Gas) Exposure Route
If available, see data below
If available, see data below
If available, see data below

Product Carcinogenicity Data

Oral Exposure Route

Dermal Exposure Route

Inhalation (Dust/Mist) Exposure Route

Inhalation (Vapor) Exposure Route

Inhalation (Gas) Exposure Route

No data available

No data available

No data available

No data available

Ingredient Carcinogenicity Data

| ingredient Carcinogenicity | <u>Dala</u> | | | | |
|--|-------------|-------|------|-----|------|
| Chemical name | CAS No. | ACGIH | IARC | NTP | OSHA |
| Sodium phosphate dibasic | 7558-79-4 | - | - | - | - |
| Potassium iodide (KI) | 7681-11-0 | - | - | - | - |
| DPD Salt | - | - | - | - | - |
| Glycine, N,N-1,2-ethanediylbis[N-(c arboxymethyl)-, disodium | 6381-92-6 | - | - | - | - |
| salt. dihvdrate | | | | | |

Legend

| ACGIH (American Conference of Governmental Industrial Hygienists) | Does not apply |
|---|----------------|
| IARC (International Agency for Research on Cancer) | Does not apply |
| NTP (National Toxicology Program) | Does not apply |
| OSHA (Occupational Safety and Health Administration of the US Department of | Does not apply |
| Labor) | |

Oral Exposure Route
Dermal Exposure Route
If available, see data below
Inhalation (Dust/Mist) Exposure Route
Inhalation (Vapor) Exposure Route
Inhalation (Gas) Exposure Route
If available, see data below

Product Germ Cell Mutagenicity invitro Data

No data available.

Ingredient Germ Cell Mutagenicity invitro Data

If available, see data below

| Chemical name | Test | Cell Strain | Reported | Exposure | Results | Key literature |
|---------------|------|-------------|----------|----------|---------|----------------|
|---------------|------|-------------|----------|----------|---------|----------------|

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| | | | dose | time | | references and sources for data |
|--|-------------------------|-------------------|-----------|------------------|---------------------------------------|---|
| Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0 | Cytogenetic analysis | Rat ascites tumor | 500 mg/kg | None reported | Positive test result for mutagenicity | RTECS (Registry of Toxic Effects of Chemical Substances) |
| Glycine, N,N-1,2-ethanediylbis [N-(carboxymethyl)-, disodium salt, dihydrate (<1%) CAS#: 6381-92-6 | Cytogenetic analysis | Hamster lung | 200 mg/L | None reported | Positive test result for mutagenicity | RTECS (Registry of Toxic Effects of Chemical Substances) |

Product Germ Cell Mutagenicity invivo Data

Oral Exposure Route

Dermal Exposure Route

Inhalation (Dust/Mist) Exposure Route

Inhalation (Vapor) Exposure Route

Inhalation (Gas) Exposure Route

No data available

No data available

No data available

No data available

Ingredient Germ Cell Mutagenicity invivo Data

Oral Exposure Route
Dermal Exposure Route
If available, see data below
Inhalation (Dust/Mist) Exposure Route
Inhalation (Vapor) Exposure Route
Inhalation (Gas) Exposure Route
If available, see data below
Inhalation (Gas) Exposure Route
If available, see data below
If available, see data below

Product Reproductive Toxicity Data

Oral Exposure Route

Dermal Exposure Route

Inhalation (Dust/Mist) Exposure Route

Inhalation (Vapor) Exposure Route

Inhalation (Gas) Exposure Route

No data available

No data available

No data available

No data available

Ingredient Reproductive Toxicity Data

Oral Exposure Route If available, see data below

| Oral Exposure Route | | | | | |
|--|---------------|---------------|---------------|--|--|
| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
| Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0 | | 2700 mg/kg | 39 weeks | Specific Developmental Abnormalities Endocrine System | RTECS (Registry of Toxic Effects of Chemical Substances) |
| Chemical name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
| Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0 | Human TD∟₀ | 3240 mg/kg | 39 weeks | Effects on Newborn Other neonatal measures or effects Physical Specific Developmental Abnormalities Endocrine system | RTECS (Registry of Toxic Effects of Chemical Substances) |

Inhalation (Dust/Mist) Exposure RouteIf available, see data belowInhalation (Vapor) Exposure RouteIf available, see data belowInhalation (Gas) Exposure RouteIf available, see data below

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product Ecological Data

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Aquatic toxicity

Fish No data available
Crustacea No data available
Algae No data available

Ingredient Ecological Data

Aquatic toxicity

Fish

| Chemical name | Exposure time | Species | Endpoint type | Reported dose | Key literature references and sources for data |
|--|---------------|---------------------|---------------|---------------|--|
| Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0 | 96 hours | Oncorhynchus mykiss | LC50 | 896 mg/L | PEEN (Pan European Ecological Network) |
| Glycine, N,N-1,2-ethanediylbis [N-(carboxymethyl)-, disodium salt, dihydrate (<1%) CAS#: 6381-92-6 | 96 hours | Lepomis macrochirus | LC50 | 159 mg/L | Vendor SDS |

Crustacea

ΔcnlΔ

If available, see ingredient data below

If available, see ingredient data below

| Alyae | ii avaliable, see ingredient data below | | | | | |
|-----------------------|---|---------------|------------------|----------|-------------------------------|--|
| Chemical name | Exposure | Species | Endpoint | Reported | Key literature references and | |
| | time | | type | dose | sources for data | |
| Glycine, | 72 Hours | None reported | EC ₅₀ | 10 mg/L | Vendor SDS | |
| N,N-1,2-ethanediylbis | | · | | | | |
| [N-(carboxymethyl)-, | | | | | | |
| disodium salt, | | | | | | |
| dihydrate | | | | | | |
| (<1%) | | | | | | |
| CAS#: 6381-92-6 | | | | | | |

Other Information

Canadian Environmental Protection Act (CEPA) - Domestic Substances List (DSL): Environmentally Hazardous Substances Categorizations

| Chemical name | Category | Persistent | Bioaccumulation | Inherently Toxic to Aquatic Organisms |
|--|------------|------------|-----------------|--|
| Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0 | Inorganics | Yes | No | Yes |

Persistence and degradability

Product Biodegradability Data

No data available.

Ingredient Biodegradability Data

No data available

Bioaccumulation

Product Bioaccumulation Data

No data available.

Partition Coefficient (n-octanol/water) log K_{ow} ~ 0

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Ingredient Bioaccumulation Data

No data available

| Chemical name | Partition Coefficient (n-octanol/water) | Method |
|---|---|--------------------------|
| Sodium phosphate dibasic (20 - 30%) CAS#: 7558-79-4 | log K _{ow} ~ 0 | No information available |
| Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0 | log K _{ow} ~ 0 | No information available |
| DPD Salt (1 - 5%) CAS#: - | Partition coefficient | No information available |
| Glycine, N,N-1,2-ethanediylbis[N-(carboxymethyl)-, disodium salt, dihydrate (<1%) CAS#: 6381-92-6 | log K _{ow} < 0 | No information available |

Mobility

Product Information

Soil Organic Carbon-Water Partition Coefficient

log Koc ~ 0

Water solubility

| Water solubility classification | Water solubility | Water Solubility Temperature |
|---------------------------------|------------------|------------------------------|
| Soluble | > 1000 mg/L | 25 °C / 77 °F |

Ingredient Information

| Chemical name | Soil Organic Carbon-Water Partition Coefficient | Method |
|---|--|--------------------------|
| Sodium phosphate dibasic (20 - 30%) CAS#: 7558-79-4 | log K _{oc} ~ 0 | No information available |
| Potassium iodide (KI) (20 - 30%) CAS#: 7681-11-0 | log K _{oc} ~ 0 | No information available |
| Glycine, N,N-1,2-ethanediylbis[N-(carboxymethyl)-, disodium salt, dihydrate (<1%) CAS#: 6381-92-6 | log K _{oc} < 0 | No information available |

| Chemical name | Water solubility classification | Water solubility | Water solubility temperature °C | Water solubility temperature °F |
|---|---------------------------------|------------------|---------------------------------|---------------------------------|
| Sodium phosphate dibasic CAS#: 7558-79-4 | Completely soluble | 118000 mg/L | 20 °C | 68 °F |
| Potassium iodide (KI) CAS#: 7681-11-0 | Completely soluble | 1400000 mg/L | 20 °C | 68 °F |
| DPD Salt CAS#: - | Completely soluble | > 10000 mg/L | 25 °C | 77 °F |
| Glycine, N,N-1,2-ethanediylbis[N-(carboxymethyl)-, disodium salt, dihydrate CAS#: 6381-92-6 | Completely soluble | 100000 mg/L | 20 °C | 68 °F |

Other adverse effects

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No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national, and local laws and

regulations.

Contaminated packaging Disposal should be in accordance with applicable regional, national, and local laws and

regulations.

Special instructions for disposal Dilute to 3 to 5 times the volume with cold water. If permitted by regulation. Open cold water

tap completely, slowly pour the material to the drain. Allow cold water to run for 5 minutes to completely flush the system. Check with national, local municipal and state authorities and

waste contractors for pertinent local information on the disposal of this article.

14. TRANSPORT INFORMATION

U.S. DOT Not regulated

TDG Not regulated

IATA Not regulated

<u>IMDG</u> Not regulated

Note: No special precautions necessary.

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

National Inventories

TSCA Complies DSL/NDSL Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS Complies Complies **ENCS** Complies **IECSC** Complies **KECL** Complies **PICCS TCSI** Complies **AICS** Complies **NZIoC** Complies

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EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TCSI - Taiwan Chemical Substances Inventory

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

| Acute health hazard | Yes |
|-----------------------------------|-----|
| Chronic Health Hazard | No |
| Fire hazard | No |
| Sudden release of pressure hazard | No |
| Reactive Hazard | No |

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|----------------------|--------------------------------|------------------------|------------------------------|-------------------------------|
| Sodium phosphate | 5000 lb | - | - | X |
| dibasic 7558-79-4 | | | | |

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

| Chemical name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|--------------------------|--------------------------|----------------|--------------------------|
| Sodium phosphate dibasic | 5000 lb | - | RQ 5000 lb final RQ |
| 7558-79-4 | | | RQ 2270 kg final RQ |

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

New Jersey Trade Secret Registry Number 80100131-5001 (Carboxylate Salt) New Jersey Trade Secret Registry Number 80100131-5002 (DPD Salt) New York Trade Secret Registry Number 478 (DPD Salt) New York Trade Secret Registry Number 479 (Carboxylate Salt) This product complies with Pennsylvania Trade Secret Regulations. This product is registered as a trade secret in the state of Illinois. This product is registered as a trade secret in the state of Massachusetts. This product is registered as a trade secret in the state of New York.

U.S. State Right-to-Know Regulations

| Chemical name | New Jersey | Massachusetts | Pennsylvania |
|---------------|------------|---------------|--------------|
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| Sodium phosphate dibasic | Χ | X | X |
|--------------------------|---|---|---|
| 7558-79-4 | | | |

U.S. EPA Label Information

| Chemical name | FIFRA | FDA |
|--------------------------|----------|------------------------------------|
| Sodium phosphate dibasic | 180.0910 | 21 CFR 182.1778,21 CFR 182.6290,21 |
| | | CFR 182.6778,21 CFR 182.8778 |
| Potassium iodide (KI) | 180.0940 | 21 CFR 184.1634 |

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments

None

TWA

Additional information

Global Automotive Declarable Substance List (GADSL)

Not applicable

NFPA and HMIS Classifications

| | NFPA | Health hazards - 2 | Flammability - 0 | Instability - 0 | Physical and Chemical |
|---|------|--------------------|------------------|----------------------|--------------------------|
| | | | · | | Properties - |
| I | HMIS | Health hazards - 2 | Flammability - 0 | Physical Hazards - 0 | Personal protection - X |
| | | | | | - See section 8 for more |
| | | | | | information |

Key or legend to abbreviations and acronyms used in the safety data sheet

NIOSH IDLH Immediately Dangerous to Life or Health

ACGIH ACGIH (American Conference of Governmental Industrial Hygienists)

NDF no data

<u>Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION</u>

TWA (time-weighted average)

| MAC | Maximum Allowable Concentration | Ceiling | Ceiling Limit Value |
|-----|---------------------------------|---------|--|
| X | Listed | Vacated | These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state |

STEL

regulations.

STEL (Short Term Exposure Limit)

SKN* Skin designation SKN+ Skin sensitization
RSP+ Respiratory sensitization ** Hazard Designation
C Carcinogen R Reproductive toxicant

M mutagen

Prepared By Hach Product Compliance Department

 Issue Date
 19-Oct-2016

 Revision Date
 01-Nov-2017

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Revision Note None

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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End of Safety Data Sheet

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