



SAFETY DATA SHEET

According to 29 CFR 1910.1200 Hazard Communication Standard 2012 (HazCom 2012)

SECTION 1: Identification

Product identifier	
Product name	Hardness Reagent
Product number	R-0012; R-0012-PL
Recommended use and restrictions	To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.
Manufacturer	Taylor Technologies, Inc. 31 Loveton Circle Sparks, MD 21152 Phone: (410) 472-4340 Emergency phone: (800) 837-8548

SECTION 2: Hazard(s) identification

Physical hazards	Not applicable
Health hazards	Not applicable
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.
Label elements	
Hazard pictograms	Not applicable
Signal word	Not applicable
Hazard statements	Not applicable
Precautionary statements	
Prevention	Avoid contact with skin, eyes, or clothing. For contact with skin or eyes, flush 20 minutes with water. If ingested, contact physician or local poison control center. Treat symptoms as needed.
Response	This reagent is not defined as a hazardous chemical per OSHA's Hazard Communication Standard 2012; however, use care when handling.
Storage	Keep tightly capped. Store out of direct sunlight between 36°F–85°F.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazards not otherwise classified	Not applicable

SECTION 3: Composition/information on ingredients

Mixture			
Chemical name	Common name and synonyms	CAS number	% w/w
Water	Dihydrogen oxide	7732-18-5	80-100
Nonhazardous and other components below reportable levels	Not applicable	Not applicable	1-5

SECTION 4: First-aid measures

If inhaled

Remove individual to fresh air. Seek medical advice/attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed.

In case of skin contact

Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical advice/attention if irritation develops.

In case of eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. If symptoms persist or in all cases of concern, seek medical advice/attention.

If swallowed

Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs. If symptoms persist or in all cases of concern, seek medical advice/attention.

Most important symptoms and effects, both acute and delayed

Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects

Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

General information

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: Firefighting measures**Extinguishing media**

Suitable extinguishing media Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Specific hazards arising from the substance or mixture

Fire hazard Not flammable
Explosion hazard Not explosive
Reactivity Hazardous reactions will not occur under normal conditions.
Hazardous combustion products Carbon oxides, hydrogen chloride gas, magnesium oxides, nitrogen oxides, sodium oxides. Other irritating fumes and smoke.

Advice for firefighters

Precautionary measures Exercise caution when fighting any chemical fire; hazardous fumes will be present.
Firefighting equipment/instructions Use water spray or fog for cooling exposed containers.
Protection during firefighting Do not enter fire area without proper protective equipment, including respiratory protection.
Other information Refer to section 9 of the SDS for flammability properties.

SECTION 6: Accidental release measures**Personal precautions, protective equipment, and emergency procedures**

Wear appropriate protective equipment and clothing during cleanup. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.

Environmental precautions

Avoid discharge into drains, watercourses, or onto the ground.

Methods and material for containment and cleaning up

Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water. Never return spills to original containers for reuse. Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Reference to other sections

For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

SECTION 7: Handling and storage**Personal precautions, protective equipment, and emergency procedures**

Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure controls/personal protection**Occupational exposure limits**

Not regulated

US NIOSH: Pocket Guide to Chemical Hazards

Not regulated

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Not regulated

Biological limit values

No biological exposure limits noted for the ingredient(s)

Exposure controls

Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.
Personal protective equipment	
Eye/face protection	Wear appropriate chemical safety goggles if contact is likely to occur.
Skin protection	Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.
Body protection	Wear appropriate protective clothing if contact is likely to occur.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Form	Liquid
Color	Clear, colorless or nearly colorless
Odor	Odorless
Odor threshold	No data available
pH	8.1
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Initial boiling point (boiling range)	No data available
Flash point	No data available
Specific gravity	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Upper Flammability Limit	No data available
Lower Flammability Limit	No data available
Vapor pressure	No data available
Vapor density	No data available
Solubility	Soluble in all proportions
Partition coefficient (n-octanol/water)	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

SECTION 10: Stability and reactivity

Reactivity	Hazardous reactions will not occur under normal conditions.
Chemical stability	Stable under recommended handling and storage conditions (refer to section 7 of the SDS).
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use
Conditions to avoid	Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Oxidizing agents and metals.
Hazardous decomposition products	Hazardous reactions will not occur under normal conditions.

SECTION 11: Toxicological information

Information on toxicological effects

Likely routes of exposure are skin/eye contact and ingestion.

Most important symptoms/effects, acute and delayed

Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness and itching.

Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties.

Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

Acute toxicity

This product is not classified as an acute toxicity hazard.

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory sensitization

No data available

Skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not regulated

Reproductive toxicity

No data available

Specific target organ toxicity (single exposure)

No data available

Specific target organ toxicity (repeated exposure)

No data available

Aspiration hazard

No data available

SECTION 12: Ecological information

Ecotoxicity

This product is not classified as environmentally hazardous.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 13: Disposal considerations

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

DOT

Not regulated as dangerous goods

IATA

Not regulated as dangerous goods

IMDG

Not regulated as dangerous goods

SECTION 15: Regulatory information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

Not regulated

SARA 302 Extremely Hazardous Substance (40 CFR 355 Appendices A / B)

Not regulated

SARA 304 Emergency Release Notification

Not regulated

SARA 311/312 Hazardous Chemical

Not regulated

SARA 313 (TRI reporting)

Not regulated

TSCA Section 8(b) Chemical Inventory

All components are on the U.S. EPA TSCA Inventory list.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs)

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Clean Water Act, Toxic and Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)

Not regulated

Massachusetts Right-to-Know Act

Not regulated

New Jersey Worker and Community Right-to-Know Act

Not regulated

Pennsylvania Worker and Community Right-to-Know Act

Not regulated

Rhode Island Right-to-Know Act

Not regulated

SECTION 16: Other information

NFPA Rating

Health hazard	0
Fire hazard	0
Reactivity	0
Specific	N/A

Disclaimer

The information in the Safety Data Sheet is offered for your consideration and guidance for safe handling, use, storage, transportation, disposal, and release of this product and is not considered a warranty or quality specification. Taylor Technologies, Inc., disclaims all expressed or implied warranties and assumes no responsibility for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

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Issue date:

May 2015

Last revisions

April 2018



SAFETY DATA SHEET

According to 29 CFR 1910.1200 Hazard Communication Standard 2012 (HazCom 2012)

SECTION 1: Identification

Product identifier	
Product name	Cyanuric Acid Reagent
Product number	R-0013
Recommended use and restrictions	To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.
Manufacturer	Taylor Technologies, Inc. 31 Loveton Circle Sparks, MD 21152 Phone: (410) 472-4340 Emergency phone: (800) 837-8548

SECTION 2: Hazard(s) identification

Physical hazards	Not applicable
Health hazards	Not applicable
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.
Label elements	
Hazard pictograms	Not applicable
Signal word	Not applicable
Hazard statements	Not applicable
Precautionary statements	
Prevention	Avoid contact with skin, eyes, or clothing. For contact with skin or eyes, flush 20 minutes with water. If ingested, contact physician or local poison control center. Treat symptoms as needed.
Response	This reagent is not defined as a hazardous chemical per OSHA's Hazard Communication Standard 2012; however, use care when handling.
Storage	Keep tightly capped. Store out of direct sunlight between 36°F–85°F.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazards not otherwise classified	Not applicable

SECTION 3: Composition/information on ingredients

Mixture			
Chemical name	Common name and synonyms	CAS number	% w/w
Water	Dihydrogen oxide	7732-18-5	80-100
Nonhazardous and other components below reportable levels	Not applicable	Not applicable	1-5

SECTION 4: First-aid measures

If inhaled

Remove individual to fresh air. Seek medical advice/attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed.

In case of skin contact

Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical advice/attention if irritation develops.

In case of eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. If symptoms persist or in all cases of concern, seek medical advice/attention.

If swallowed

Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs. If symptoms persist or in all cases of concern, seek medical advice/attention.

Most important symptoms and effects, both acute and delayed

Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects

Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

General information

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: Firefighting measures**Extinguishing media**

Suitable extinguishing media Use extinguishing media appropriate for surrounding fire.
 Unsuitable extinguishing media Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Specific hazards arising from the substance or mixture

Fire hazard Not flammable
 Explosion hazard Not explosive
 Reactivity Hazardous reactions will not occur under normal conditions.
 Hazardous combustion products Carbon oxides, nitrogen oxides, sodium oxides. Other irritating fumes and smoke.

Advice for firefighters

Precautionary measures Exercise caution when fighting any chemical fire; hazardous fumes will be present.
 Firefighting equipment/instructions Use water spray or fog for cooling exposed containers.
 Protection during firefighting Do not enter fire area without proper protective equipment, including respiratory protection.
 Other information Refer to section 9 of the SDS for flammability properties.

SECTION 6: Accidental release measures**Personal precautions, protective equipment, and emergency procedures**

Wear appropriate protective equipment and clothing during cleanup. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.

Environmental precautions

Avoid discharge into drains, watercourses, or onto the ground.

Methods and material for containment and cleaning up

Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water. Never return spills to original containers for reuse. Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Reference to other sections

For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

SECTION 7: Handling and storage**Personal precautions, protective equipment, and emergency procedures**

Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure controls/personal protection**Occupational exposure limits**

Not regulated

US NIOSH: Pocket Guide to Chemical Hazards

Not regulated

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Not regulated

Biological limit values

No biological exposure limits noted for the ingredient(s)

Exposure controls

Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.
Personal protective equipment	
Eye/face protection	Wear appropriate chemical safety goggles if contact is likely to occur.
Skin protection	Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.
Body protection	Wear appropriate protective clothing if contact is likely to occur.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Form	Liquid
Color	Clear, colorless or nearly colorless
Odor	Odorless
Odor threshold	No data available
pH	5.8
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Initial boiling point (boiling range)	No data available
Flash point	No data available
Specific gravity	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Upper Flammability Limit	No data available
Lower Flammability Limit	No data available
Vapor pressure	No data available
Vapor density	No data available
Solubility	Soluble in all proportions
Partition coefficient (n-octanol/water)	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

SECTION 10: Stability and reactivity

Reactivity	Hazardous reactions will not occur under normal conditions.
Chemical stability	Stable under recommended handling and storage conditions (refer to section 7 of the SDS)
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use
Conditions to avoid	Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Acetaldehyde, acids, chlorine, ethylene oxide, isocyanates, metals, organic materials, peroxides, phenols, reducing agents, strong bases, strong oxidizing agents
Hazardous decomposition products	Hazardous reactions will not occur under normal conditions

SECTION 11: Toxicological information

Information on toxicological effects

Likely routes of exposure are skin/eye contact and ingestion.

Most important symptoms/effects, acute and delayed

Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness and itching.

Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties.

Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

Acute toxicity

This product is not classified as an acute toxicity hazard.

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory sensitization

No data available

Skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not regulated

Reproductive toxicity

No data available

Specific target organ toxicity (single exposure)

No data available

Specific target organ toxicity (repeated exposure)

No data available

Aspiration hazard

No data available

SECTION 12: Ecological information

Ecotoxicity

This product is not classified as environmentally hazardous.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 13: Disposal considerations

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

DOT

Not regulated as dangerous goods

IATA

Not regulated as dangerous goods

IMDG

Not regulated as dangerous goods

SECTION 15: Regulatory information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

Not regulated

SARA 302 Extremely Hazardous Substance (40 CFR 355 Appendices A / B)

Not regulated

SARA 304 Emergency Release Notification

Not regulated

SARA 311/312 Hazardous Chemical

Not regulated

SARA 313 (TRI reporting)

Not regulated

TSCA Section 8(b) Chemical Inventory

All components are on the U.S. EPA TSCA Inventory list.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs)

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Clean Water Act, Toxic and Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)

Not regulated

Massachusetts Right-to-Know Act

Not regulated

New Jersey Worker and Community Right-to-Know Act

Not regulated

Pennsylvania Worker and Community Right-to-Know Act

Not regulated

Rhode Island Right-to-Know Act

Not regulated

SECTION 16: Other information

NFPA Rating

Health hazard	0
Fire hazard	0
Reactivity	0
Specific	N/A

Disclaimer

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Issue date:

May 2015

Last revisions

April 2018



SAFETY DATA SHEET

According to 29 CFR 1910.1200 Hazard Communication Standard 2012 (HazCom 2012)

SECTION 1: Identification

Product identifier	
Product name	Thiosulfate N/10
Product number	R-0007; R-0007-PL
Recommended use and restrictions	To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.
Manufacturer	Taylor Technologies, Inc. 31 Loveton Circle Sparks, MD 21152 Phone: (410) 472-4340 Emergency phone: (800) 837-8548

SECTION 2: Hazard(s) identification

Physical hazards	Not applicable
Health hazards	Not applicable
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.
Label elements	
Hazard pictograms	Not applicable
Signal word	Not applicable
Hazard statements	Not applicable
Precautionary statements	
Prevention	Avoid contact with skin, eyes, or clothing. For contact with skin or eyes, flush 20 minutes with water. If ingested, contact physician or local poison control center. Treat symptoms as needed.
Response	This reagent is not defined as a hazardous chemical per OSHA's Hazard Communication Standard 2012; however, use care when handling.
Storage	Keep tightly capped. Store out of direct sunlight between 36°F–85°F.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazards not otherwise classified	Not applicable

SECTION 3: Composition/information on ingredients

Mixture			
Chemical name	Common name and synonyms	CAS number	% w/w
Water	Dihydrogen oxide	7732-18-5	80-100
Nonhazardous and other components below reportable levels	Not applicable	Not applicable	1-5

SECTION 4: First-aid measures

If inhaled

Remove individual to fresh air. Seek medical advice/attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed.

In case of skin contact

Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical advice/attention if irritation develops.

In case of eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. If symptoms persist or in all cases of concern, seek medical advice/attention.

If swallowed

Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs. If symptoms persist or in all cases of concern, seek medical advice/attention.

Most important symptoms and effects, both acute and delayed

Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects

Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

General information

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: Firefighting measures**Extinguishing media**

Suitable extinguishing media Use extinguishing media appropriate for surrounding fire.
 Unsuitable extinguishing media Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Specific hazards arising from the substance or mixture

Fire hazard Not flammable.
 Explosion hazard Not explosive.
 Reactivity Hazardous reactions will not occur under normal conditions.
 Hazardous combustion products Carbon oxides, sodium oxides. Other irritating fumes and smoke.

Advice for firefighters

Precautionary measures Exercise caution when fighting any chemical fire; hazardous fumes will be present.
 Firefighting equipment/instructions Use water spray or fog for cooling exposed containers.
 Protection during firefighting Do not enter fire area without proper protective equipment, including respiratory protection.
 Other information Refer to section 9 of the SDS for flammability properties.

SECTION 6: Accidental release measures**Personal precautions, protective equipment, and emergency procedures**

Wear appropriate protective equipment and clothing during cleanup. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.

Environmental precautions

Avoid discharge into drains, watercourses, or onto the ground.

Methods and material for containment and cleaning up

Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water. Never return spills to original containers for reuse. Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Reference to other sections

For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

SECTION 7: Handling and storage**Personal precautions, protective equipment, and emergency procedures**

Do not breathe dust or mist. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure controls/personal protection**Occupational exposure limits**

Not regulated

US NIOSH: Pocket Guide to Chemical Hazards

Not regulated

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Not regulated

Biological limit values

No biological exposure limits noted for the ingredient(s)

Exposure controls

Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.
Personal protective equipment	
Eye/face protection	Wear appropriate chemical safety goggles if contact is likely to occur.
Skin protection	Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.
Body protection	Wear appropriate protective clothing if contact is likely to occur.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Form	Liquid
Color	Clear, colorless or nearly colorless
Odor	Odorless
Odor threshold	No data available
pH	9.6
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Initial boiling point (boiling range)	No data available
Flash point	No data available
Specific gravity	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Upper Flammability Limit	No data available
Lower Flammability Limit	No data available
Vapor pressure	No data available
Vapor density	No data available
Solubility	Soluble in all proportions
Partition coefficient (n-octanol/water)	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

SECTION 10: Stability and reactivity

Reactivity	Hazardous reactions will not occur under normal conditions.
Chemical stability	Stable under recommended handling and storage conditions (refer to section 7 of the SDS).
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products under normal conditions.

SECTION 11: Toxicological information

Information on toxicological effects

Likely routes of exposure are skin/eye contact and ingestion.

Most important symptoms/effects, acute and delayed

Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness and itching.

Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties.

Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

Acute toxicity

This product is not classified as an acute toxicity hazard.

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory sensitization

No data available

Skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not regulated

Reproductive toxicity

No data available

Specific target organ toxicity (single exposure)

No data available

Specific target organ toxicity (repeated exposure)

No data available

Aspiration hazard

No data available

SECTION 12: Ecological information

Ecotoxicity

This product is not classified as environmentally hazardous.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 13: Disposal considerations

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

DOT

Not regulated as dangerous goods

IATA

Not regulated as dangerous goods

IMDG

Not regulated as dangerous goods

SECTION 15: Regulatory information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

Not regulated

SARA 302 Extremely Hazardous Substance (40 CFR 355 Appendices A / B)

Not regulated

SARA 304 Emergency Release Notification

Not regulated

SARA 311/312 Hazardous Chemical

Not regulated

SARA 313 (TRI reporting)

Not regulated

TSCA Section 8(b) Chemical Inventory

All components are on the U.S. EPA TSCA Inventory list.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs)

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Clean Water Act, Toxic and Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)

Not regulated

Massachusetts Right-to-Know Act

Not regulated

New Jersey Worker and Community Right-to-Know Act

Not regulated

Pennsylvania Worker and Community Right-to-Know Act

Not regulated

Rhode Island Right-to-Know Act

Not regulated

SECTION 16: Other information

NFPA Rating

Health hazard	0
Fire hazard	0
Reactivity	0
Specific	N/A

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Issue date:

May 2015


Last revisions

June 2018

SECTION 1: Identification

Product identifier	
Product name	Calcium Indicator Liquid
Product number	R-0011L; R-011L-PL
Recommended use and restrictions	To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.
Manufacturer	Taylor Technologies, Inc. 31 Loveton Circle Sparks, MD 21152 Phone: (410) 472-4340 Emergency phone: (800) 837-8548

SECTION 2: Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Eye damage/irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.	
Label elements		
Hazard pictograms		
Signal word	Danger	
Hazard statements	Highly flammable liquid and vapor. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.	
Precautionary statements		
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/eye protection/face protection if contact is likely to occur. Wash skin thoroughly after handling. Avoid breathing dust/fumes/gas/mists/vapors/spray. Use only outdoors or in a well-ventilated area.	
Response	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a physician or poison center if you feel unwell. IF ON SKIN (OR HAIR): Immediately take off all contaminated clothing. Rinse skin with water. 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. IN CASE OF FIRE: Use alcohol-resistant foam, carbon dioxide, dry chemical powder, or water fog to extinguish.	
Storage	Store in well-ventilated place. Keep tightly capped. Store out of direct sunlight between 36°F-85°F. Store locked up.	
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.	
Hazards not otherwise classified	Not applicable	

SECTION 3: Composition/information on ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	% w/w
Triethanolamine	Trolamine, 2,2', 2'' -Nitrilotriethanol	102-71-6	60-80
Isopropyl alcohol	Isopropanol	67-63-0	10-30
Nonhazardous and other components below reportable levels	Not applicable	Not applicable	0.1-1

SECTION 4: First-aid measures

If inhaled

Remove individual to fresh air. Seek medical advice/attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed.

In case of skin contact

Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical advice/attention if irritation develops.

In case of eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms persist or in all cases of concern, seek medical advice/attention.

If swallowed

Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs. If symptoms persist or in all cases of concern, seek medical advice/attention.

Most important symptoms and effects, both acute and delayed

Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects.

Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

General information

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media Alcohol-resistant foam, carbon dioxide, dry chemical powder, or water fog.

Unsuitable extinguishing media Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Specific hazards arising from the substance or mixture

Fire hazard Flammable liquid and vapor. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can be electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential static discharge, use proper bonding and grounding procedures. This material may be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment). Vapors are heavier than air and may spread along floors.

Explosion hazard Vapors may form explosive mixtures with air. This material may be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment). Vapors are heavier than air and may spread along floors.

Reactivity Hazardous reactions will not occur under normal conditions.

Hazardous combustion products Carbon oxides, nitrogen oxides. Other irritating fumes and smoke.

Advice for firefighters

Precautionary measures Exercise caution when fighting any chemical fire; hazardous fumes will be present.

Firefighting equipment/instructions Use water spray or fog for cooling exposed containers.

Protection during firefighting Do not enter fire area without proper protective equipment, including respiratory protection.

Other information Refer to section 9 of the SDS for flammability properties.

SECTION 6: Accidental release measures

Personal precautions, protective equipment, and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe dust/ fumes/ gas/ mists/ vapors/ spray. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.

Environmental precautions

Avoid discharge into drains, watercourses, or onto the ground.

Methods and material for containment and cleaning up

Ventilate the contaminated area. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water to remove residual contamination. Never return spills to original containers for reuse. Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Reference to other sections

For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

SECTION 7: Handling and storage

Personal precautions, protective equipment, and emergency procedures

Do not handle until all safety precautions have been read and understood. Do not breathe dust/fumes/gas/mists/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

Store in well-ventilated place. Keep cool. Keep tightly capped. Store out of direct sunlight between 36°F-85°F. Store away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure controls/personal protection

Occupational exposure limits

US ACGIH Threshold Limit Values

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	980 mg/m ³
Isopropanol (CAS 67-63-0)	TWA	492 mg/m ³
Triethanolamine (CAS 102-71-6)	TWA	5 mg/m ³

US NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Isopropanol (CAS 67-63-0)	ST	1225 mg/m ³
Isopropanol (CAS 67-63-0)	TWA	980 mg/m ³
Isopropanol (CAS 67-63-0)	IDLH	4920 mg/m ³

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Isopropanol (CAS 67-63-0)	PEL	980 mg/m ³

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Isopropanol (CAS 67-63-0)	40 mg/L	Acetone	Urine	End of shift at end of workweek

Exposure controls

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.

Personal protective equipment

Eye/face protection	Wear appropriate chemical safety goggles if contact is likely to occur.
Skin protection	Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.
Body protection	Wear appropriate protective clothing if contact is likely to occur.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties**

Physical state	Liquid
Form	Liquid
Color	Dark purple to dark blue
Odor	Alcohol
Odor threshold	90 mg/m ³
pH	No data available
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Initial boiling point (boiling range)	180.4°F (82.3°C)
Flash point	53°F (12°C) Closed cup
Specific gravity	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	Flammable
Upper Flammability Limit	UEL 12% v/v 200° F (93°C)
Lower Flammability Limit	LEL 2% v/v 200° F (93°C)
Vapor pressure	45.4 mmHG at 25°C
Vapor density	2.1
Relative density	No data available
Solubility	Soluble in all proportions
Partition coefficient (n-octanol/water)	No data available
Viscosity	No data available
Explosive properties	Moderately explosive when exposed to heat or flame.
Oxidizing properties	No data available

SECTION 10: Stability and reactivity

Reactivity	Hazardous reactions will not occur under normal conditions.
Chemical stability	Stable under recommended handling and storage conditions (refer to section 7 of the SDS.)
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, sparks, open flames, and other ignition sources. Temperatures exceeding the flash point. Direct sunlight. Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Acetaldehyde, acids, chlorine, ethylene oxide, halogenated hydrocarbons, isocyanates, nitrites, organics, strong acids, strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products under normal conditions.

SECTION 11: Toxicological information**Information on toxicological effects**

Likely routes of exposure are skin/eye contact and ingestion.

Most important symptoms/effects, acute and delayed	Direct skin contact may cause irritation. Symptoms may include redness and itching.
	Direct eye contact may cause serious irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
	Inhalation of mists can cause respiratory irritation, drowsiness, dizziness. Symptoms may include coughing and breathing difficulties.
	Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

Acute toxicity	This product is not classified as an acute toxicity hazard.
Skin corrosion/irritation	No data available
Serious eye damage/eye irritation	Causes serious eye irritation
Respiratory sensitization	No data available
Skin sensitization	No data available
Germ cell mutagenicity	No data available

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not classifiable

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not regulated

Reproductive toxicity	No data available
Specific target organ toxicity (single exposure)	May cause drowsiness or dizziness. May cause respiratory irritation.
Specific target organ toxicity (repeated exposure)	No data available
Aspiration hazard	No data available

SECTION 12: Ecological information

Ecotoxicity	This product is not classified as environmentally hazardous.
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
Other adverse effects	Large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 13: Disposal considerations

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

DOT

UN number	1219
UN Proper shipping name	Isopropyl alcohol solution
Reportable Quantity	None
Class (Subsidiary risk)	3
Label(s)	3
Packing group	II
Special provisions	IB2, T4, TP1
Packaging exceptions	4b, 150
Packaging, non-bulk	202

IATA

UN number	1219
UN Proper shipping name	Isopropyl alcohol solution
Class (Subsidiary risk)	3
Packing group	II
Special provisions	A180

IMDG

UN number	1219
UN Proper shipping name	Isopropyl alcohol solution

Class (Subsidiary risk)	3
Packing group	II
Environmental hazards	
Marine pollutant	No
Special provisions	None
EmS	F-E, S-D
Special precautions for user	Read safety instructions, SDS, and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	This substance/mixture is not intended to be transported in bulk.

DOT hazard pictograms



IATA; IMDG hazard pictograms



SECTION 15: Regulatory information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

Not regulated

SARA 302 Extremely Hazardous Substance (40 CFR 355 Appendices A / B)

Not regulated

SARA 304 Emergency Release Notification

Not regulated

SARA 311/312 Hazardous Chemical

<u>Chemical name</u>	<u>CAS number</u>
Isopropanol	67-63-0
Triethanolamine	102-71-6

SARA 313 (TRI reporting)

<u>Chemical name</u>	<u>CAS number</u>
Isopropanol	67-63-0

TSCA Section 8(b) Chemical Inventory

All components are on the U.S. EPA TSCA Inventory list.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs)

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Clean Water Act, Toxic and Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)

Not regulated

Massachusetts Right-to-Know Act

Not regulated

New Jersey Worker and Community Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Isopropanol	67-63-0
Triethanolamine	102-71-6

Pennsylvania Worker and Community Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Isopropanol	67-63-0
Triethanolamine	102-71-6

Rhode Island Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Isopropanol	67-63-0
Triethanolamine	102-71-6

SECTION 16: Other information**NFPA Rating**

Health hazard	1
Fire hazard	3
Reactivity	1
Specific	N/A

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Issue date:

May 2015

Last revisions

April 2018



SAFETY DATA SHEET

According to 29 CFR 1910.1200 Hazard Communication Standard 2012 (HazCom 2012)

SECTION 1: Identification

Product identifier	Total Alkalinity Indicator
Product name	
Product number	R-0008; R-0008-PL
Recommended use and restrictions	To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.
Manufacturer	Taylor Technologies, Inc. 31 Loveton Circle Sparks, MD 21152 Phone: (410) 472-4340 Emergency phone: (800) 837-8548

SECTION 2: Hazard(s) identification

Physical hazards	Not applicable
Health hazards	Not applicable
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.
Label elements	
Hazard pictograms	Not applicable
Signal word	Not applicable
Hazard statements	Not applicable
Precautionary statements	
Prevention	Avoid contact with skin, eyes, or clothing. For contact with skin or eyes, flush 20 minutes with water. If ingested, contact physician or local poison control center. Treat symptoms as needed.
Response	This reagent is not defined as a hazardous chemical per OSHA's Hazard Communication Standard 2012; however, use care when handling.
Storage	Keep tightly capped. Store out of direct sunlight between 36°F–85°F.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazards not otherwise classified	Not applicable

SECTION 3: Composition/information on ingredients

Mixture			
Chemical name	Common name and synonyms	CAS number	% w/w
Water	Dihydrogen oxide	7732-18-5	80-100
Nonhazardous and other components below reportable levels	Not applicable	Not applicable	0.1–1

SECTION 4: First-aid measures

If inhaled

Remove individual to fresh air. Seek medical advice/attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed.

In case of skin contact

Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical advice/attention if irritation develops.

In case of eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. If symptoms persist or in all cases of concern, seek medical advice/attention.

If swallowed

Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs. If symptoms persist or in all cases of concern, seek medical advice/attention.

Most important symptoms and effects, both acute and delayed

Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects

Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

General information

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: Firefighting measures**Extinguishing media**

Suitable extinguishing media Use extinguishing media appropriate for surrounding fire.
 Unsuitable extinguishing media Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Specific hazards arising from the substance or mixture

Fire hazard Not flammable
 Explosion hazard Not explosive
 Reactivity Hazardous reactions will not occur under normal conditions.
 Hazardous combustion products Carbon oxides, hydrogen bromide, sodium oxides, sulfur oxides. Other irritating fumes and smoke.

Advice for firefighters

Precautionary measures Exercise caution when fighting any chemical fire; hazardous fumes will be present.
 Firefighting equipment/instructions Use water spray or fog for cooling exposed containers.
 Protection during firefighting Do not enter fire area without proper protective equipment, including respiratory protection.
 Other information Refer to section 9 of the SDS for flammability properties.

SECTION 6: Accidental release measures**Personal precautions, protective equipment, and emergency procedures**

Wear appropriate protective equipment and clothing during cleanup. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.

Environmental precautions

Avoid discharge into drains, watercourses, or onto the ground.

Methods and material for containment and cleaning up

Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water. Never return spills to original containers for reuse. Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Reference to other sections

For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

SECTION 7: Handling and storage**Personal precautions, protective equipment, and emergency procedures**

Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure controls/personal protection**Occupational exposure limits**

Not regulated

US NIOSH: Pocket Guide to Chemical Hazards

Not regulated

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Not regulated

Biological limit values

No biological exposure limits noted for the ingredient(s)

Exposure controls

Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.
Personal protective equipment	
Eye/face protection	Wear appropriate chemical safety goggles if contact is likely to occur.
Skin protection	Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.
Body protection	Wear appropriate protective clothing if contact is likely to occur.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Form	Liquid
Color	Dark green
Odor	Odorless
Odor threshold	No data available
pH	8.5
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Initial boiling point (boiling range)	No data available
Flash point	No data available
Specific gravity	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Upper Flammability Limit	No data available
Lower Flammability Limit	No data available
Vapor pressure	No data available
Vapor density	No data available
Solubility	Soluble in all proportions
Partition coefficient (n-octanol/water)	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

SECTION 10: Stability and reactivity

Reactivity	Hazardous reactions will not occur under normal conditions.
Chemical stability	Stable under recommended handling and storage conditions (refer to section 7 of the SDS).
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Metals, oxidizing agents, acids.
Hazardous decomposition products	No hazardous decomposition products under normal conditions.

SECTION 11: Toxicological information

Information on toxicological effects

Likely routes of exposure are skin/eye contact and ingestion.

Most important symptoms/effects, acute and delayed

Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness and itching.

Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties.

Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

Acute toxicity

This product is not classified as an acute toxicity hazard.

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory sensitization

No data available

Skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not regulated

Reproductive toxicity

No data available

Specific target organ toxicity (single exposure)

No data available

Specific target organ toxicity (repeated exposure)

No data available

Aspiration hazard

No data available

SECTION 12: Ecological information

Ecotoxicity

This product is not classified as environmentally hazardous.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 13: Disposal considerations

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

DOT

Not regulated as dangerous goods

IATA

Not regulated as dangerous goods

IMDG

Not regulated as dangerous goods

SECTION 15: Regulatory information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

Not regulated

SARA 302 Extremely Hazardous Substance (40 CFR 355 Appendices A / B)

Not regulated

SARA 304 Emergency Release Notification

Not regulated

SARA 311/312 Hazardous Chemical

Not regulated

SARA 313 (TRI reporting)

Not regulated

TSCA Section 8(b) Chemical Inventory

All components are on the U.S. EPA TSCA Inventory list.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs)

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Clean Water Act, Toxic and Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)

Not regulated

Massachusetts Right-to-Know Act

Not regulated

New Jersey Worker and Community Right-to-Know Act

Not regulated

Pennsylvania Worker and Community Right-to-Know Act

Not regulated

Rhode Island Right-to-Know Act

Not regulated

SECTION 16: Other information

NFPA Rating

Health hazard	0
Fire hazard	0
Reactivity	0
Specific	N/A

Disclaimer

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Issue date:

May 2015

Last revisions

June 2018



SAFETY DATA SHEET

According to 29 CFR 1910.1200 Hazard Communication Standard 2012 (HazCom 2012)

SECTION 1: Identification

Product identifier	
Product name	pH Indicator Solution (Phenol Red)
Product number	R-0004; R-0004-PL
Recommended use and restrictions	To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.
Manufacturer	Taylor Technologies, Inc. 31 Loveton Circle Sparks, MD 21152 Phone: (410) 472-4340 Emergency phone: (800) 837-8548

SECTION 2: Hazard(s) identification

Physical hazards	Not applicable
Health hazards	Not applicable
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.
Label elements	
Hazard pictograms	Not applicable
Signal word	Not applicable
Hazard statements	Not applicable
Precautionary statements	
Prevention	Avoid contact with skin, eyes, or clothing. For contact with skin or eyes, flush 20 minutes with water. If ingested, contact physician or local poison control center. Treat symptoms as needed.
Response	This reagent is not defined as a hazardous chemical per OSHA's Hazard Communication Standard 2012; however, use care when handling.
Storage	Keep tightly capped. Store out of direct sunlight between 36°F–85°F.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazards not otherwise classified	Not applicable

SECTION 3: Composition/information on ingredients

Mixture			
Chemical name	Common name and synonyms	CAS number	% w/w
Water	Dihydrogen oxide	7732-18-5	80-100
Nonhazardous and other components below reportable levels	Not applicable	Not applicable	1-5

SECTION 4: First-aid measures

If inhaled

Remove individual to fresh air. Seek medical advice/attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed.

In case of skin contact

Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical advice/attention if irritation develops.

In case of eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. If symptoms persist or in all cases of concern, seek medical advice/attention.

If swallowed

Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs. If symptoms persist or in all cases of concern, seek medical advice/attention.

Most important symptoms and effects, both acute and delayed

Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects.

Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

General information

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: Firefighting measures**Extinguishing media**

Suitable extinguishing media Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Specific hazards arising from the substance or mixture

Fire hazard Not flammable
Explosion hazard Not explosive
Reactivity Hazardous reactions will not occur under normal conditions.
Hazardous combustion products Carbon oxides, nitrogen oxides, sodium oxides, sulfur oxides. Other irritating fumes and smoke.

Advice for firefighters

Precautionary measures Exercise caution when fighting any chemical fire; hazardous fumes will be present.
Firefighting equipment/instructions Use water spray or fog for cooling exposed containers.
Protection during firefighting Do not enter fire area without proper protective equipment, including respiratory protection.
Other information Refer to section 9 of the SDS for flammability properties.

SECTION 6: Accidental release measures**Personal precautions, protective equipment, and emergency procedures**

Wear appropriate protective equipment and clothing during cleanup. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.

Environmental precautions

Avoid discharge into drains, watercourses, or onto the ground.

Methods and material for containment and cleaning up

Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water. Never return spills to original containers for reuse. Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Reference to other sections

For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

SECTION 7: Handling and storage**Personal precautions, protective equipment, and emergency procedures**

Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure controls/personal protection**Occupational exposure limits**

Not regulated

US NIOSH: Pocket Guide to Chemical Hazards

Not regulated

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Not regulated

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure controls

Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.
Personal protective equipment	
Eye/face protection	Wear appropriate chemical safety goggles if contact is likely to occur.
Skin protection	Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.
Body protection	Wear appropriate protective clothing if contact is likely to occur.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Form	Liquid
Color	Clear, red
Odor	Slight phenolic
Odor threshold	No data available
pH	No data available
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Initial boiling point (boiling range)	No data available
Flash point	No data available
Specific gravity	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Upper Flammability Limit	No data available
Lower Flammability Limit	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density	No data available
Solubility	Soluble in all proportions
Partition coefficient (n-octanol/water)	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

SECTION 10: Stability and reactivity

Reactivity	Hazardous reactions will not occur under normal conditions.
Chemical stability	Stable under recommended handling and storage conditions (refer to section 7 of the SDS)
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Acids, bases, iodides, lead, mercury salts, metals, oxidizing agents, silver salts, sodium nitrate.
Hazardous decomposition products	No hazardous decomposition products under normal conditions

SECTION 11: Toxicological information

Information on toxicological effects

Likely routes of exposure are skin/eye contact and ingestion.

Most important symptoms/effects, acute and delayed

Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness and itching.

Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties.

Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

Acute toxicity

This product is not classified as an acute toxicity hazard.

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory sensitization

No data available

Skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not regulated

Reproductive toxicity

No data available

Specific target organ toxicity (single exposure)

No data available

Specific target organ toxicity (repeated exposure)

No data available

Aspiration hazard

No data available

SECTION 12: Ecological information

Ecotoxicity

This product is not classified as environmentally hazardous.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 13: Disposal considerations

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

DOT

Not regulated as dangerous goods

IATA

Not regulated as dangerous goods

IMDG

Not regulated as dangerous goods

SECTION 15: Regulatory information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

Not regulated

SARA 302 Extremely Hazardous Substance (40 CFR 355 Appendices A / B)

Not regulated

SARA 304 Emergency Release Notification

Not regulated

SARA 311/312 Hazardous Chemical

Not regulated

SARA 313 (TRI reporting)

Not regulated

TSCA Section 8(b) Chemical Inventory

All components are on the U.S. EPA TSCA Inventory list.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs)**

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Clean Water Act, Toxic and Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations**California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)**

Not regulated

Massachusetts Right-to-Know Act

Not regulated

New Jersey Worker and Community Right-to-Know Act

Not regulated

Pennsylvania Worker and Community Right-to-Know Act

Not regulated

Rhode Island Right-to-Know Act

Not regulated

SECTION 16: Other information**NFPA Rating**

Health hazard	0
Fire hazard	0
Reactivity	0
Specific	N/A

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Issue date:

May 2015


Last revisions

June 2018

SECTION 1: Identification

Product identifier	
Product name	Calcium Buffer
Product number	R-0010; R-0010-PL
Recommended use and restrictions	To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.
Manufacturer	Taylor Technologies, Inc. 31 Loveton Circle Sparks, MD 21152 Phone: (410) 472-4340 Emergency phone: (800) 837-8548

SECTION 2: Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Eye damage/irritation	Category 1
	Skin corrosion/irritation	Category 1A
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.	
Label elements		
Hazard pictograms		
Signal word	Danger	
Hazard statements	May be corrosive to metals. Causes severe skin burns and serious eye damage.	
Precautionary statements		
Prevention	Keep only in original container. Do not breathe dusts or mists. Wash skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection if contact is likely to occur.	
Response	Absorb spillage to prevent material damage. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (OR HAIR): Immediately take off all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a physician or poison control center. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a physician or poison control center.	
Storage	Store in corrosive-resistant container with corrosive-resistant inner liner. Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store locked up.	
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.	
Hazards not otherwise classified	Not applicable	

SECTION 3: Composition/information on ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	% w/w
Water	Dihydrogen oxide	7732-18-5	80-100
Sodium Hydroxide	Caustic Soda	1310-73-2	1-5

SECTION 4: First-aid measures

If inhaled

Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed.

In case of skin contact

Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical attention if irritation develops. Chemical burns must be treated by a physician.

In case of eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

If swallowed

Immediately call a physician or poison control center. Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs.

Most important symptoms and effects, both acute and delayed

Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects.

Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep person under observation. Symptoms may be delayed.

General information

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: Firefighting measures**Extinguishing media**

Suitable extinguishing media	Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Specific hazards arising from the substance or mixture

Fire hazard	Not flammable
Explosion hazard	Not explosive
Reactivity	May be corrosive to metals
Hazardous combustion products	Sodium oxides. Other irritating fumes and smoke.

Advice for firefighters

Precautionary measures	Exercise caution when fighting any chemical fire; hazardous fumes will be present.
Firefighting equipment/instructions	Use water spray or fog for cooling exposed containers.
Protection during firefighting	Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	Refer to section 9 of the SDS for flammability properties.

SECTION 6: Accidental release measures**Personal precautions, protective equipment, and emergency procedures**

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.

Environmental precautions

Avoid discharge into drains, watercourses, or onto the ground.

Methods and material for containment and cleaning up

Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water. Dilute base with water and neutralize with dilute acid. If not recoverable, dilute with water or flush to holding area and neutralize. Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Reference to other sections

For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

SECTION 7: Handling and storage**Personal precautions, protective equipment, and emergency procedures**

Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in corrosive-resistant container with corrosive-resistant inner liner. Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure controls/personal protection**Occupational exposure limits****US ACGIH Threshold Limit Values**

<u>Components</u>	<u>Type</u>	<u>Value</u>
Sodium Hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m ³

US NIOSH: Pocket Guide to Chemical Hazards

<u>Components</u>	<u>Type</u>	<u>Value</u>
Sodium Hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m ³

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<u>Components</u>	<u>Type</u>	<u>Value</u>
Sodium Hydroxide (CAS 1310-73-2)	TWA	2 mg/m ³

Biological limit values

No biological exposure limits noted for the ingredient(s)

Exposure controls

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.

Personal protective equipment

Eye/face protection	Wear appropriate chemical safety goggles if contact is likely to occur.
Skin protection	Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.
Body protection	Wear appropriate protective clothing if contact is likely to occur
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties**

Physical state	Liquid
Form	Liquid
Color	Clear, colorless or nearly colorless
Odor	Odorless
Odor threshold	No data available
pH	13.1
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Initial boiling point (boiling range)	No data available
Flash point	No data available
Specific gravity	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Upper Flammability Limit	No data available
Lower Flammability Limit	No data available
Vapor pressure	No data available
Vapor density	No data available

Relative density	No data available
Solubility	Soluble in all proportions
Partition coefficient (n-octanol/water)	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

SECTION 10: Stability and reactivity

Reactivity	May be corrosive to metals
Chemical stability	Stable under recommended handling and storage conditions (refer to section 7 of the SDS)
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use
Conditions to avoid	Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Acids, metals, and oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products under normal conditions

SECTION 11: Toxicological information

Information on toxicological effects

Likely routes of exposure are skin/eye contact and ingestion.

Most important symptoms/effects, acute and delayed	Direct skin contact may cause corrosive skin burns, deep ulcerations, and possibly permanent scarring. Direct contact with concentrated solutions may be corrosive to the eyes and may cause severe damage, including blindness. Symptoms may include stinging, tearing, redness, swelling, and scarring. Inhalation of mists can cause severe respiratory irritation. Symptoms may include coughing, choking, and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus, and possibly the digestive tract. Symptoms may include abdominal pain, vomiting, burns, perforations, and bleeding.
Acute toxicity	This product is not classified as an acute toxicity hazard. See below for product and individual ingredient acute toxicity data.

Product	Species	Acute Toxicity Estimate (ATE)
Calcium Buffer Reagent (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD ₅₀	Rat	No data available
<i>Inhalation</i>		
LC ₅₀	Rat	No data available
<i>Oral</i>		
LD ₅₀	Rat	>2000 mg/kg
Components	Species	Acute Toxicity Data
Sodium hydroxide (CAS 1310-73-2)		
Acute		
<i>Dermal</i>		
LD ₅₀	Rat	No data available
<i>Inhalation</i>		
LC ₅₀	Rat	No data available
<i>Oral</i>		
LD ₅₀	Rat	140-340 mg/kg
Skin corrosion/irritation	Causes severe skin burns	
Serious eye damage/eye irritation	Causes serious eye damage	
Respiratory sensitization	No data available	

Skin sensitization No data available

Germ cell mutagenicity No data available

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not classifiable

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not regulated

Reproductive toxicity No data available

Specific target organ toxicity (single exposure) No data available

Specific target organ toxicity (repeated exposure) No data available

Aspiration hazard No data available

SECTION 12: Ecological information

Ecotoxicity This product is not classified as environmentally hazardous.

Persistence and degradability No data available

Bioaccumulative potential No data available

Mobility in soil No data available

Other adverse effects Large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 13: Disposal considerations

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

DOT

UN number UN1824
UN Proper shipping name Sodium hydroxide solution
Reportable Quantity 5000 lbs
Class (Subsidiary risk) 8
Label(s) 8
Packing group III
Special provisions IB3, N34, T4, TP1
Packaging exceptions 154
Packaging, non-bulk 203

IATA

UN number UN1824
UN Proper shipping name Sodium hydroxide solution
Class (Subsidiary risk) 8
Packing group III
Special provisions A803

IMDG

UN number UN1824
UN Proper shipping name Sodium hydroxide solution
Class (Subsidiary risk) 8
Packing group III
Environmental hazards
Marine pollutant No
Special provisions 223

EmS

F-A, S-B

Special precautions for user

Read safety instructions, SDS, and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

This substance/mixture is not intended to be transported in bulk.

DOT hazard pictograms



IATA; IMDG hazard pictograms



SECTION 15: Regulatory information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

<u>Chemical name</u>	<u>CAS number</u>	<u>Reportable Quantity</u>
Sodium Hydroxide	1310-73-2	1000 lbs

SARA 302 Extremely Hazardous Substance (40 CFR 355 Appendices A / B)

Not regulated

SARA 304 Emergency Release Notification

Not regulated

SARA 311/312 Hazardous Chemical

<u>Chemical name</u>	<u>CAS number</u>
Sodium hydroxide	1310-73-2

SARA 313 (TRI reporting)

Not regulated

TSCA Section 8(b) Chemical Inventory

All components are on the U.S. EPA TSCA Inventory list.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs)

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Clean Water Act, Toxic and Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)

Not regulated

Massachusetts Right-to-Know Act

Not regulated

New Jersey Worker and Community Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Sodium hydroxide	1310-73-2

Pennsylvania Worker and Community Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
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Sodium hydroxide	1310-73-2
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Rhode Island Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
----------------------	-------------------

Sodium hydroxide	1310-73-2
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SECTION 16: Other information

NFPA Rating

Health hazard	2
Fire hazard	0
Reactivity	1
Specific	N/A

Disclaimer

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Issue date:

May 2015

Last revisions

April 2018

SECTION 1: Identification

Product identifier	
Product name	Sulfuric Acid .12N
Product number	R-0009; R-0009-PL
Recommended use and restrictions	To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.
Manufacturer	Taylor Technologies, Inc. 31 Loveton Circle Sparks, MD 21152 Phone: (410) 472-4340 Emergency phone: (800) 837-8548

SECTION 2: Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Eye damage/irritation	Category 1
	Skin corrosion/irritation	Category 1C
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.	

Label elements
Hazard pictograms



Signal word	Danger
Hazard statements	May be corrosive to metals. Causes severe skin burns and serious eye damage.
Precautionary statements	
Prevention	Do not breathe dust or mists. Wash skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection if contact is likely to occur. Keep only in original container.
Response	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (OR HAIR): Immediately take off all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a physician or poison control center. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a physician or poison control center. Absorb spillage to prevent material damage.
Storage	Store in corrosive-resistant container with corrosive-resistant inner liner. Keep tightly capped. Store locked up. Store out of direct sunlight between 36°F–85°F.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazards not otherwise classified	Not applicable

SECTION 3: Composition/information on ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	% w/w
Water	Dihydrogen oxide	7732-18-5	80–100
Sulfuric acid	Sulphuric acid; Dihydrogen sulfate	7664-93-9	0.1–1

SECTION 4: First-aid measures

If inhaled

Remove individual to fresh air. Seek medical advice/attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed.

In case of skin contact

Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical advice/attention if irritation develops. Chemical burns must be treated by a physician.

In case of eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

If swallowed

Call a physician or poison control center immediately. Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs.

Most important symptoms and effects, both acute and delayed

Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects.

Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep person under observation. Symptoms may be delayed.

General information

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: Firefighting measures**Extinguishing media**

Suitable extinguishing media	Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Specific hazards arising from the substance or mixture

Fire hazard	Not flammable
Explosion hazard	Not explosive
Reactivity	May be corrosive to metals
Hazardous combustion products	Sulfur oxides. Other irritating fumes and smoke.

Advice for firefighters

Precautionary measures	Exercise caution when fighting any chemical fire; hazardous fumes will be present.
Firefighting equipment/instructions	Use water spray or fog for cooling exposed containers.
Protection during firefighting	Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	Refer to section 9 of the SDS for flammability properties.

SECTION 6: Accidental release measures**Personal precautions, protective equipment, and emergency procedures**

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe dust or mists. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.

Environmental precautions

Avoid discharge into drains, watercourses, or onto the ground.

Methods and material for containment and cleaning up

Ventilate the area. Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water. Dilute acid with water and neutralize with dilute base. If not recoverable, dilute with water or flush to holding area and neutralize. Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Reference to other sections

For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

SECTION 7: Handling and storage**Personal precautions, protective equipment, and emergency procedures**

Do not breathe dust or mists. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section

8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

Store in corrosive-resistant container with corrosive-resistant inner liner. Keep tightly capped. Store locked up. Store out of direct sunlight between 36°F–85°F. Store away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure controls/personal protection

Occupational exposure limits

US ACGIH Threshold Limit Values

Components	Type	Value
Sulfuric acid (CAS 7664-93-9)	TWA	0.2 mg/m ³ (thoracic particulate)

US NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sulfuric acid (CAS 7664-93-9)	TWA	1 mg/m ³
Sulfuric acid (CAS 7664-93-9)	IDLH	15 mg/m ³

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sulfuric acid (CAS 7664-93-9)	TWA	1 mg/m ³

Biological limit values

No biological exposure limits noted for the ingredient(s)

Exposure controls

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.

Personal protective equipment

Eye/face protection Wear appropriate chemical safety goggles if contact is likely to occur.
Skin protection Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.
Body protection Wear appropriate protective clothing if contact is likely to occur.
Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Form	Liquid
Color	Clear, colorless
Odor	Odorless
Odor threshold	No data available
pH	1.3
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Initial boiling point (boiling range)	No data available
Flash point	No data available
Specific gravity	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Upper Flammability Limit	No data available

Lower Flammability Limit	No data available
Vapor pressure	No data available
Vapor density	No data available
Solubility	No data available
Partition coefficient (n-octanol/water)	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

SECTION 10: Stability and reactivity

Reactivity	May be corrosive to metals
Chemical stability	Stable under recommended handling and storage conditions (refer to section 7 of the SDS)
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use
Conditions to avoid	Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Bases, chlorates, halides, hydrogen peroxide, metal compounds, nitrates, nitromethane, organic materials, oxidizing agents, perchlorates, phosphorous
Hazardous decomposition products	No hazardous decomposition products under normal conditions

SECTION 11: Toxicological information

Information on toxicological effects

Likely routes of exposure are skin/eye contact and ingestion.

Most important symptoms/effects, acute and delayed	Direct skin contact may cause corrosive skin burns, deep ulcerations, and possibly permanent scarring. Direct contact with concentrated solutions may be corrosive and may cause severe damage, including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Inhalation of mists can cause respiratory irritation. Symptoms may include coughing, choking, and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. May produce burns to lips, oral cavity, upper airway, esophagus, and possibly the digestive tract. Symptoms may include abdominal pain, vomiting, burns, perforations, and bleeding.
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Acute toxicity This product is not classified as an acute toxicity hazard. See below for product and individual ingredient acute toxicity data.

Product	Species	Acute Toxicity Estimate (ATE)
Acid Demand Reagent (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD ₅₀	Rat	No data available
<i>Inhalation</i>		
LC ₅₀	Rat	>5 mg/L
<i>Oral</i>		
LD ₅₀	Rat	>2000 mg/kg

Components	Species	Acute Toxicity Data
Sulfuric acid (CAS 7664-93-9)		
Acute		
<i>Dermal</i>		
LD ₅₀	Rat	No data available
<i>Inhalation</i>		
LC ₅₀	Rat	0.375 mg/L (for aerosol mists)
<i>Oral</i>		
LD ₅₀	Rat	2140 mg/kg
Skin corrosion/irritation	Causes severe skin burns	

Serious eye damage/eye irritation Causes serious eye damage

Respiratory sensitization No data available

Skin sensitization No data available

Germ cell mutagenicity No data available

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not regulated

Reproductive toxicity No data available

Specific target organ toxicity (single exposure) No data available

Specific target organ toxicity (repeated exposure) No data available

Aspiration hazard No data available

SECTION 12: Ecological information

Ecotoxicity This product is not classified as environmentally hazardous.

Persistence and degradability No data available

Bioaccumulative potential No data available

Mobility in soil No data available

Other adverse effects Large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 13: Disposal considerations

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

DOT

UN number 2796
UN Proper shipping name Sulfuric acid solution
Reportable Quantity 1000 lbs
Class (Subsidiary risk) 8
Label(s) 8
Packing group II
Special provisions 386, A3, A7, B2, B15, IB2, N6, N34, T8, TP2
Packaging exceptions 154
Packaging, non-bulk 202

IATA

UN number 2796
UN Proper shipping name Sulphuric acid solution
Class (Subsidiary risk) 8
Packing group II
Special provisions None

IMDG

UN number 2796
UN Proper shipping name Sulphuric acid solution
Class (Subsidiary risk) 8
Packing group II
Environmental hazards

Marine pollutant No
Special provisions None
EmS F-A, S-B
Special precautions for user Read safety instructions, SDS, and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

DOT hazard pictograms



IATA; IMDG hazard pictograms



SECTION 15: Regulatory information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

Chemical name	CAS number	Reportable Quantity
Sulfuric acid	7664-93-9	1000 lbs

SARA 302 Extremely Hazardous Substance (40 CFR 355 Appendices A / B)

Chemical name	CAS number
Sulfuric acid	7664-93-9

SARA 304 Emergency Release Notification

Chemical name	CAS number
Sulfuric acid	7664-93-9

SARA 311/312 Hazardous Chemical

Chemical name	CAS number
Sulfuric acid	7664-93-9

SARA 313 (TRI reporting)

Not regulated

TSCA Section 8(b) Chemical Inventory

All components are on the U.S. EPA TSCA Inventory list.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs)

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Clean Water Act, Toxic and Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)

Not regulated

Massachusetts Right-to-Know Act

Chemical name	CAS number
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Sulfuric acid	7664-93-9
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New Jersey Worker and Community Right-to-Know Act

Chemical name	CAS number
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Sulfuric acid	7664-93-9
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Pennsylvania Worker and Community Right-to-Know Act

Chemical name	CAS number
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Sulfuric acid	7664-93-9
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Rhode Island Right-to-Know Act

Chemical name	CAS number
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Sulfuric acid	7664-93-9
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SECTION 16: Other information

NFPA Rating

Health hazard	2
Fire hazard	0
Reactivity	1
Specific	N/A

Disclaimer

The information in the Safety Data Sheet is offered for your consideration and guidance for safe handling, use, storage, transportation, disposal, and release of this product and is not considered a warranty or quality specification. Taylor Technologies, Inc., disclaims all expressed or implied warranties and assumes no responsibility for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

License granted to make unlimited paper copies for internal use only. This Safety Data Sheet may not be altered in any way without the expressed knowledge and permission of Taylor Technologies, Inc. The information contained in this sheet is based on lab experience and the most current data available.

Issue date:

May 2015

Last revisions

March 2018

SECTION 1: Identification

Product identifier	
Product name	Acid Demand Reagent
Product number	R-0005; R-0005-PL
Recommended use and restrictions	To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.
Manufacturer	Taylor Technologies, Inc. 31 Loveton Circle Sparks, MD 21152 Phone: (410) 472-4340 Emergency phone: (800) 837-8548

SECTION 2: Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Eye damage/irritation	Category 1
	Skin corrosion/irritation	Category 1C
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.	

Label elements

Hazard pictograms



Signal word	Danger
Hazard statements	May be corrosive to metals. Causes severe skin burns and serious eye damage.
Precautionary statements	
Prevention	Do not breathe dust or mists. Wash skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection if contact is likely to occur. Keep only in original container.
Response	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (OR HAIR): Immediately take off all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a physician or poison control center. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a physician or poison control center. Absorb spillage to prevent material damage.
Storage	Store in corrosive-resistant container with corrosive-resistant inner liner. Keep tightly capped. Store locked up. Store out of direct sunlight between 36°F–85°F.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazards not otherwise classified	Not applicable

SECTION 3: Composition/information on ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	% w/w
Water	Dihydrogen oxide	7732-18-5	80–100
Sulfuric acid	Sulphuric acid; Dihydrogen sulfate	7664-93-9	0.1–1

SECTION 4: First-aid measures

If inhaled

Remove individual to fresh air. Seek medical advice/attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed.

In case of skin contact

Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical advice/attention if irritation develops. Chemical burns must be treated by a physician.

In case of eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

If swallowed

Call a physician or poison control center immediately. Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs.

Most important symptoms and effects, both acute and delayed

Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects.

Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep person under observation. Symptoms may be delayed.

General information

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: Firefighting measures**Extinguishing media**

Suitable extinguishing media	Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Specific hazards arising from the substance or mixture

Fire hazard	Not flammable
Explosion hazard	Not explosive
Reactivity	May be corrosive to metals
Hazardous combustion products	Sulfur oxides. Other irritating fumes and smoke.

Advice for firefighters

Precautionary measures	Exercise caution when fighting any chemical fire; hazardous fumes will be present.
Firefighting equipment/instructions	Use water spray or fog for cooling exposed containers.
Protection during firefighting	Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	Refer to section 9 of the SDS for flammability properties.

SECTION 6: Accidental release measures**Personal precautions, protective equipment, and emergency procedures**

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mists or vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.

Environmental precautions

Avoid discharge into drains, watercourses, or onto the ground.

Methods and material for containment and cleaning up

Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water. Dilute acid with water and neutralize with dilute base. If not recoverable, dilute with water or flush to holding area and neutralize. Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Reference to other sections

For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

SECTION 7: Handling and storage**Personal precautions, protective equipment, and emergency procedures**

Do not breathe dust or mists. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

Store in corrosive-resistant container with corrosive-resistant inner liner. Keep tightly capped. Store locked up. Store out of direct sunlight between 36°F–85°F. Store away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure controls/personal protection

Occupational exposure limits

US ACGIH Threshold Limit Values

<u>Components</u>	<u>Type</u>	<u>Value</u>
Sulfuric acid (CAS 7664-93-9)	TWA	0.2 mg/m ³ (thoracic particulate)

US NIOSH: Pocket Guide to Chemical Hazards

<u>Components</u>	<u>Type</u>	<u>Value</u>
Sulfuric acid (CAS 7664-93-9)	TWA	1 mg/m ³

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<u>Components</u>	<u>Type</u>	<u>Value</u>
Sulfuric acid (CAS 7664-93-9)	TWA	1 mg/m ³

Biological limit values

No biological exposure limits noted for the ingredient(s)

Exposure controls

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.

Personal protective equipment

Eye/face protection	Wear appropriate chemical safety goggles if contact is likely to occur.
Skin protection	Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.
Body protection	Wear appropriate protective clothing if contact is likely to occur.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Form	Liquid
Color	Clear, colorless
Odor	Odorless
Odor threshold	No data available
pH	1.3
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Initial boiling point (boiling range)	No data available
Flash point	No data available
Specific gravity	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Upper Flammability Limit	No data available
Lower Flammability Limit	No data available
Vapor pressure	No data available

Vapor density	No data available
Solubility	No data available
Partition coefficient (n-octanol/water)	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

SECTION 10: Stability and reactivity

Reactivity	May be corrosive to metals
Chemical stability	Stable under recommended handling and storage conditions (refer to section 7 of the SDS)
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use
Conditions to avoid	Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Bases, chlorates, halides, hydrogen peroxide, metal compounds, nitrates, nitromethane, organic materials, oxidizing agents, perchlorates, phosphorous
Hazardous decomposition products	No hazardous decomposition products under normal conditions

SECTION 11: Toxicological information

Information on toxicological effects

Likely routes of exposure are skin/eye contact and ingestion.

Most important symptoms/effects, acute and delayed	Direct skin contact may cause corrosive skin burns, deep ulcerations, and possibly permanent scarring. Direct contact with concentrated solutions may be corrosive and may cause severe damage, including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Inhalation of mists can cause respiratory irritation. Symptoms may include coughing, choking, and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. May produce burns to lips, oral cavity, upper airway, esophagus, and possibly the digestive tract. Symptoms may include abdominal pain, vomiting, burns, perforations, and bleeding.
Acute toxicity	This product is not classified as an acute toxicity hazard. See below for product and individual ingredient acute toxicity data.

<u>Product</u>	<u>Species</u>	<u>Acute Toxicity Estimate (ATE)</u>
Acid Demand Reagent (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD ₅₀	Rat	No data available
<i>Inhalation</i>		
LC ₅₀	Rat	>5 mg/L
<i>Oral</i>		
LD ₅₀	Rat	>2000 mg/kg
<u>Components</u>	<u>Species</u>	<u>Acute Toxicity Data</u>
Sulfuric acid (CAS 7664-93-9)		
Acute		
<i>Dermal</i>		
LD ₅₀	Rat	No data available
<i>Inhalation</i>		
LC ₅₀	Rat	0.375 mg/L (for aerosol mists)
<i>Oral</i>		
LD ₅₀	Rat	2140 mg/kg
Skin corrosion/irritation	Causes severe skin burns	
Serious eye damage/eye irritation	Causes serious eye damage	
Respiratory sensitization	No data available	

Skin sensitization No data available

Germ cell mutagenicity No data available

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not regulated

Reproductive toxicity No data available

Specific target organ toxicity (single exposure) No data available

Specific target organ toxicity (repeated exposure) No data available

Aspiration hazard No data available

SECTION 12: Ecological information

Ecotoxicity This product is not classified as environmentally hazardous.

Persistence and degradability No data available

Bioaccumulative potential No data available

Mobility in soil No data available

Other adverse effects Large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 13: Disposal considerations

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

DOT

UN number 2796
UN Proper shipping name Sulfuric acid solution
Reportable Quantity 1000 lbs
Class (Subsidiary risk) 8
Label(s) 8
Packing group II
Special provisions 386, A3, A7, B2, B15, IB2, N6, N34, T8, TP2
Packaging exceptions 154
Packaging, non-bulk 202

IATA

UN number 2796
UN Proper shipping name Sulphuric acid solution
Class (Subsidiary risk) 8
Packing group II
Special provisions None

IMDG

UN number 2796
UN Proper shipping name Sulphuric acid solution
Class (Subsidiary risk) 8
Packing group II

Environmental hazards	
Marine pollutant	No
Special provisions	None
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS, and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	This substance/mixture is not intended to be transported in bulk.

DOT hazard pictograms



IATA; IMDG hazard pictograms



SECTION 15: Regulatory information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

<u>Chemical name</u>	<u>CAS number</u>	<u>Reportable Quantity</u>
Sulfuric acid	7664-93-9	1000 lbs

SARA 302 Extremely Hazardous Substance (40 CFR 355 Appendices A / B)

<u>Chemical name</u>	<u>CAS number</u>
Sulfuric acid	7664-93-9

SARA 304 Emergency Release Notification

<u>Chemical name</u>	<u>CAS number</u>
Sulfuric acid	7664-93-9

SARA 311/312 Hazardous Chemical

<u>Chemical name</u>	<u>CAS number</u>
Sulfuric acid	7664-93-9

SARA 313 (TRI reporting)

Not regulated

TSCA Section 8(b) Chemical Inventory

All components are on the U.S. EPA TSCA Inventory list.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs)

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Clean Water Act, Toxic and Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)

Not regulated

Massachusetts Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Sulfuric acid	7664-93-9

New Jersey Worker and Community Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Sulfuric acid	7664-93-9

Pennsylvania Worker and Community Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Sulfuric acid	7664-93-9

Rhode Island Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Sulfuric acid	7664-93-9

SECTION 16: Other information**NFPA Rating**

Health hazard	2
Fire hazard	0
Reactivity	0
Specific	N/A

Disclaimer

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Issue date:

May 2015

Last revisions

March 2018

SECTION 1: Identification

Product identifier	
Product name	DPD Reagent #3
Product number	R-0003; R-0003-PL
Recommended use and restrictions	To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.
Manufacturer	Taylor Technologies, Inc. 31 Loveton Circle Sparks, MD 21152 Phone: (410) 472-4340 Emergency phone: (800) 837-8548

SECTION 2: Hazard(s) identification

Physical hazards	Not applicable
Health hazards	Specific target organ toxicity, repeated exposure, oral Category 1
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.
Label elements	
Hazard pictograms	



Signal word	Danger
Hazard statements	Causes damage to thyroid through prolonged or repeated exposure, oral route.
Precautionary statements	
Prevention	Do not breathe dust/fumes/gas/mists/vapors/spray. Wash skin thoroughly after handling. Do not eat, drink, or smoke when using this product.
Response	IF EXPOSED OR CONCERNED: Get medical advice/attention if you feel unwell.
Storage	Keep tightly capped. Store out of direct sunlight between 36°F–85°F.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazards not otherwise classified	Not applicable

SECTION 3: Composition/information on ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	% w/w
Water	Dihydrogen oxide	7732-18-5	60–80
Potassium iodide	Hydriodic acid, potassium salt	7681-11-0	15–40
Nonhazardous and other components below reportable levels	Not applicable	Not applicable	0.1–1

SECTION 4: First-aid measures

If inhaled

Remove individual to fresh air. Seek medical advice/attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed.

In case of skin contact

Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical advice/attention if irritation develops.

In case of eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. If symptoms persist or in all cases of concern, seek medical advice/attention.

If swallowed

Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs. If symptoms persist or in all cases of concern, seek medical advice/attention.

Most important symptoms and effects, both acute and delayed

Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects.

Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

General information

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: Firefighting measures**Extinguishing media**

Suitable extinguishing media	Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Specific hazards arising from the substance or mixture

Fire hazard	Not flammable
Explosion hazard	Not explosive
Reactivity	Hazardous reactions will not occur under normal conditions.
Hazardous combustion products	Carbon oxides, hydrogen iodide, iodide fumes, iodine oxides, potassium oxide. Other irritating fumes and smoke.

Advice for firefighters

Precautionary measures	Exercise caution when fighting any chemical fire; hazardous fumes will be present.
Firefighting equipment/instructions	Use water spray or fog for cooling exposed containers.
Protection during firefighting	Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	Refer to section 9 of the SDS for flammability properties.

SECTION 6: Accidental release measures**Personal precautions, protective equipment, and emergency procedures**

Wear appropriate protective equipment and clothing during cleanup. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.

Environmental precautions

Avoid discharge into drains, watercourses, or onto the ground.

Methods and material for containment and cleaning up

Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water. Never return spills to original containers for reuse. Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Reference to other sections

For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

SECTION 7: Handling and storage**Personal precautions, protective equipment, and emergency procedures**

Do not breathe dust or mists. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure controls/personal protection**Occupational exposure limits****US ACGIH Threshold Limit Values**

Not regulated

US NIOSH: Pocket Guide to Chemical Hazards

Not regulated

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Not regulated

Biological limit values

No biological exposure limits noted for the ingredient(s)

Exposure controls

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.

Personal protective equipment

Eye/face protection Wear appropriate chemical safety goggles if contact is likely to occur.

Skin protection Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.

Body protection Wear appropriate protective clothing if contact is likely to occur.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Form	Liquid
Color	Clear, colorless or nearly colorless
Odor	Odorless
Odor threshold	No data available
pH	7.6
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Initial boiling point (boiling range)	No data available
Flash point	No data available
Specific gravity	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Upper Flammability Limit	No data available
Lower Flammability Limit	No data available
Vapor pressure	No data available
Vapor density	No data available
Solubility	No data available
Partition coefficient (n-octanol/water)	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

SECTION 10: Stability and reactivity

Reactivity Hazardous reactions will not occur under normal conditions.

Chemical stability Stable under recommended handling and storage conditions (refer to section 7 of the SDS)

Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use
Conditions to avoid	Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Fluorine perchlorate, mercurous chloride, metals, oxidizing agents, strong acids
Hazardous decomposition products	No hazardous decomposition products under normal conditions

SECTION 11: Toxicological information

Information on toxicological effects

Likely routes of exposure are skin/eye contact and ingestion.

Most important symptoms/effects, acute and delayed	Direct skin contact may cause irritation. Symptoms may include redness and itching. Direct eye contact may cause serious irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Inhalation of dust can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea. Prolonged exposure to iodides may produce iodism in sensitive individuals. Symptoms of exposure include: skin rash, running nose, headache, and irritation of the mucous membrane. For severe cases the skin may show pimples, boils, hives, blisters, and black and blue spots.
Acute toxicity	This product is not classified as an acute toxicity hazard.
Skin corrosion/irritation	No data available
Serious eye damage/eye irritation	No data available
Respiratory sensitization	No data available
Skin sensitization	No data available
Germ cell mutagenicity	No data available

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not regulated

Reproductive toxicity	No data available
Specific target organ toxicity (single exposure)	No data available
Specific target organ toxicity (repeated exposure)	Causes damage to thyroid through prolonged or repeated exposure, oral route
Aspiration hazard	No data available

SECTION 12: Ecological information

Ecotoxicity	This product is not classified as environmentally hazardous.
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
Other adverse effects	Large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 13: Disposal considerations

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

DOT	Not regulated as dangerous goods
IATA	Not regulated as dangerous goods
IMDG	Not regulated as dangerous goods

SECTION 15: Regulatory information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

Not regulated

SARA 302 Extremely Hazardous Substance (40 CFR 355 Appendices A / B)

Not regulated

SARA 304 Emergency Release Notification

Not regulated

SARA 311/312 Hazardous Chemical

<u>Chemical name</u>	<u>CAS number</u>
Potassium iodide	7681-11-0

SARA 313 (TRI reporting)

Not regulated

TSCA Section 8(b) Chemical Inventory

All components are on the U.S. EPA TSCA Inventory list.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs)

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Clean Water Act, Toxic and Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)

Not regulated

Massachusetts Right-to-Know Act

Not regulated

New Jersey Worker and Community Right-to-Know Act

Not regulated

Pennsylvania Worker and Community Right-to-Know Act

Not regulated

Rhode Island Right-to-Know Act

Not regulated

SECTION 16: Other information

NFPA Rating

Health hazard	1
Fire hazard	0
Reactivity	0
Specific	N/A

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Issue date:

May 2015

Last revisions

April 2018



SAFETY DATA SHEET

According to 29 CFR 1910.1200 Hazard Communication Standard 2012 (HazCom 2012)

SECTION 1: Identification

Product identifier	
Product name	Base Demand Reagent
Product number	R-0006
Recommended use and restrictions	To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.
Manufacturer	Taylor Technologies, Inc. 31 Loveton Circle Sparks, MD 21152 Phone: (410) 472-4340 Emergency phone: (800) 837-8548

SECTION 2: Hazard(s) identification

Physical hazards	Not applicable
Health hazards	Not applicable
Environmental hazards	Not applicable
Label elements	
Hazard pictograms	Not applicable
Signal word	Not applicable
Hazard statements	Not applicable
Precautionary statements	
Prevention	Avoid contact with skin, eyes, or clothing. For contact with skin or eyes, flush 20 minutes with water. If ingested, contact physician or local poison control center. Treat symptoms as needed.
Response	This reagent is not defined as a hazardous chemical per OSHA's Hazard Communication Standard 2012; however, use care when handling.
Storage	Keep tightly capped. Store out of direct sunlight between 36°F–85°F.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazards not otherwise classified	Not applicable

SECTION 3: Composition/information on ingredients

Mixture			
Chemical name	Common name and synonyms	CAS number	% w/w
Water	Dihydrogen oxide	7732-18-5	80-100
Nonhazardous and other components below reportable levels	Not applicable	Not applicable	0.1–1

SECTION 4: First-aid measures

If inhaled

Remove individual to fresh air. Seek medical advice/attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed.

In case of skin contact

Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical advice/attention if irritation develops.

In case of eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms persist or in all cases of concern, seek medical advice/attention.

If swallowed

Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs. If symptoms persist or in all cases of concern, seek medical advice/attention.

Most important symptoms and effects, both acute and delayed

Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects

Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

General information

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: Firefighting measures**Extinguishing media**

Suitable extinguishing media Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Specific hazards arising from the substance or mixture

Fire hazard Not flammable
Explosion hazard Not explosive
Reactivity Hazardous reactions will not occur under normal conditions.
Hazardous combustion products Carbon oxides, sodium oxides. Other irritating fumes and smoke.

Advice for firefighters

Precautionary measures Exercise caution when fighting any chemical fire; hazardous fumes will be present.
Firefighting equipment/instructions Use water spray or fog for cooling exposed containers.
Protection during firefighting Do not enter fire area without proper protective equipment, including respiratory protection.
Other information Refer to section 9 of the SDS for flammability properties.

SECTION 6: Accidental release measures**Personal precautions, protective equipment, and emergency procedures**

Wear appropriate protective equipment and clothing during cleanup. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.

Environmental precautions

Avoid discharge into drains, watercourses, or onto the ground.

Methods and material for containment and cleaning up

Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water. Never return spills to original containers for reuse. Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Reference to other sections

For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

SECTION 7: Handling and storage**Personal precautions, protective equipment, and emergency procedures**

Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure controls/personal protection**Occupational exposure limits**

Not regulated

US NIOSH: Pocket Guide to Chemical Hazards

Not regulated

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Not regulated

Biological limit values

No biological exposure limits noted for the ingredient(s)

Exposure controls

Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.
Personal protective equipment	
Eye/face protection	Wear appropriate chemical safety goggles if contact is likely to occur.
Skin protection	Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.
Body protection	Wear appropriate protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Form	Liquid
Color	Clear, colorless or nearly colorless
Odor	Odorless
Odor threshold	No data available
pH	11.2
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Initial boiling point (boiling range)	No data available
Flash point	No data available
Specific gravity	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Upper Flammability Limit	No data available
Lower Flammability Limit	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density	No data available
Solubility	Soluble in all proportions
Partition coefficient (n-octanol/water)	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

SECTION 10: Stability and reactivity

Reactivity	Hazardous reactions will not occur under normal conditions.
Chemical stability	Stable under recommended handling and storage conditions (refer to section 7 of the SDS)
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use
Conditions to avoid	Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Strong acids
Hazardous decomposition products	No hazardous decomposition products under normal conditions.

SECTION 11: Toxicological information

Information on toxicological effects

Likely routes of exposure are skin/eye contact and ingestion.

Most important symptoms/effects, acute and delayed

Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness and itching.

Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties.

Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

Acute toxicity

This product is not classified as an acute toxicity hazard.

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory sensitization

No data available

Skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not regulated

Reproductive toxicity

No data available

Specific target organ toxicity (single exposure)

No data available

Specific target organ toxicity (repeated exposure)

No data available

Aspiration hazard

No data available

SECTION 12: Ecological information

Ecotoxicity

This product is not classified as environmentally hazardous.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 13: Disposal considerations

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

DOT

Not regulated as dangerous goods

IATA

Not regulated as dangerous goods

IMDG

Not regulated as dangerous goods

SECTION 15: Regulatory information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

Not regulated

SARA 302 Extremely Hazardous Substance (40 CFR 355 Appendices A / B)

Not regulated

SARA 304 Emergency Release Notification

Not regulated

SARA 311/312 Hazardous Chemical

Not regulated

SARA 313 (TRI reporting)

Not regulated

TSCA Section 8(b) Chemical Inventory

All components are on the U.S. EPA TSCA Inventory list.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs)

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Clean Water Act, Toxic and Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)

Not regulated

Massachusetts Right-to-Know Act

Not regulated

New Jersey Worker and Community Right-to-Know Act

Not regulated

Pennsylvania Worker and Community Right-to-Know Act

Not regulated

Rhode Island Right-to-Know Act

Not regulated

SECTION 16: Other information

NFPA Rating

Health hazard	0
Fire hazard	0
Reactivity	0
Specific	N/A

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Issue date:

May 2015


Last revisions

June 2018

SECTION 1: Identification

Product identifier	
Product name	DPD Powder
Product number	R-0870; R-0870-PL
Recommended use and restrictions	To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.
Manufacturer	Taylor Technologies, Inc. 31 Loveton Circle Sparks, MD 21152 Phone: (410) 472-4340 Emergency phone: (800) 837-8548

SECTION 2: Hazard(s) identification

Physical hazards	Not applicable	
Health hazards	Eye damage/irritation	Category 2A
	Skin corrosion/irritation	Category 2
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.	
Label elements		
Hazard pictograms		
Signal word	Warning	
Hazard statements	Causes serious eye irritation. Causes skin irritation.	
Precautionary statements		
Prevention	Wear protective gloves/protective clothing/eye protection/face protection if contact is likely to occur. Wash skin thoroughly after handling.	
Response	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. IF ON SKIN: Wash with plenty of water. IF SKIN IRRITATION OCCURS: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.	
Storage	Keep tightly capped. Store out of direct sunlight between 36°F–85°F.	
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.	
Hazards not otherwise classified	Not applicable	

SECTION 3: Composition/information on ingredients

Mixture			
Chemical name	Common name and synonyms	CAS number	% w/w
Sodium phosphate dibasic	Disodium hydrogen phosphate; Disodium phosphate	7558-79-4	10–30
Citric acid	2-Hydroxypropane-1,2,3-tricarboxylic acid	77-92-9	1–5
Ethylenediaminetetraacetic acid disodium salt dihydrate	EDTA disodium dihydrate	6381-92-6	1–5
N,N-Diethyl-p-phenylenediamine sulfate salt	DPD sulfate	6065-27-6	1–5
Nonhazardous and other components below reportable levels	Not applicable	Not applicable	45–70

SECTION 4: First-aid measures

If inhaled

Remove individual to fresh air. Seek medical advice/attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed.

In case of skin contact

Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical advice/attention if irritation develops.

In case of eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. If symptoms persist or in all cases of concern, seek medical advice/attention.

If swallowed

Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs. If symptoms persist or in all cases of concern, seek medical advice/attention.

Most important symptoms and effects, both acute and delayed

Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects.

Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

General information

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media	Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Specific hazards arising from the substance or mixture

Fire hazard	Not flammable
Explosion hazard	Not explosive
Reactivity	Hazardous reactions will not occur under normal conditions.
Hazardous combustion products	Calcium oxides, carbon oxides, nitrogen oxides, phosphorous oxides, potassium oxides, sodium oxides, sulfur oxides. Other irritating fumes and smoke.

Advice for firefighters

Precautionary measures	Exercise caution when fighting any chemical fire; hazardous fumes will be present.
Firefighting equipment/instructions	Use water spray or fog for cooling exposed containers.
Protection during firefighting	Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	Refer to section 9 of the SDS for flammability properties.

SECTION 6: Accidental release measures

Personal precautions, protective equipment, and emergency procedures

Wear appropriate protective equipment and clothing during cleanup. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.

Environmental precautions

Avoid discharge into drains, watercourses, or onto the ground.

Methods and material for containment and cleaning up

Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water. Never return spills to original containers for reuse.

Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Reference to other sections

For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

SECTION 7: Handling and storage

Personal precautions, protective equipment, and emergency procedures

Do not breathe dust or mists. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure.

Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure controls/personal protection

Occupational exposure limits

US ACGIH Threshold Limit Values

Not regulated

US NIOSH: Pocket Guide to Chemical Hazards

Not regulated

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Not regulated

Biological limit values

No biological exposure limits noted for the ingredient(s)

Exposure controls

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.

Personal protective equipment

Eye/face protection

Wear appropriate chemical safety goggles if contact is likely to occur.

Skin protection

Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.

Body protection

Wear appropriate protective clothing if contact is likely to occur.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Solid
Form	Powder
Color	Off-white
Odor	Odorless
Odor threshold	No data available
pH	No data available
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Initial boiling point (boiling range)	No data available

Flash point	No data available
Specific gravity	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Upper Flammability Limit	No data available
Lower Flammability Limit	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density	No data available
Solubility	No data available
Partition coefficient (n-octanol/water)	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

SECTION 10: Stability and reactivity

Reactivity	Hazardous reactions will not occur under normal conditions.
Chemical stability	Stable under recommended handling and storage conditions (refer to section 7 of the SDS)
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use
Conditions to avoid	Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Bases, brass, copper, iron, iron salts, nickel, nitrates, oxidizing agents, powdered metals, reducing agents, strong acids, strong bases, strong oxidizing agents, strong reducing agents, zinc
Hazardous decomposition products	No hazardous decomposition products under normal conditions

SECTION 11: Toxicological information

Information on toxicological effects

Likely routes of exposure are skin/eye contact and ingestion.

Most important symptoms/effects, acute and delayed	Direct skin contact may cause irritation. Symptoms may include redness and itching. Direct eye contact may cause serious irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Inhalation of dust can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
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Acute toxicity This product is not classified as an acute toxicity hazard. See below for product and individual ingredient acute toxicity data.

Product	Species	Acute Toxicity Estimate (ATE)
DPD Powder (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD ₅₀	Rat	No data available
<i>Inhalation</i>		
LC ₅₀	Rat	No data available
<i>Oral</i>		
LD ₅₀	Rat	>2000 mg/kg
Components	Species	Acute Toxicity Data
N,N-Diethyl-p-phenylenediamine sulfate salt (CAS 6065-27-6)		
Acute		
<i>Dermal</i>		
LD ₅₀	Rat	No data available

Inhalation

LC₅₀ Rat No data available

Oral

LD₅₀ Rat 500 mg/kg

Skin corrosion/irritation Causes skin irritation
Serious eye damage/eye irritation Causes serious eye irritation
Respiratory sensitization No data available
Skin sensitization No data available
Germ cell mutagenicity No data available

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not regulated

Reproductive toxicity No data available
Specific target organ toxicity (single exposure) No data available
Specific target organ toxicity (repeated exposure) No data available
Aspiration hazard No data available

SECTION 12: Ecological information

Ecotoxicity This product is not classified as environmentally hazardous.
Persistence and degradability No data available
Bioaccumulative potential No data available
Mobility in soil No data available
Other adverse effects Large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 13: Disposal considerations

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

DOT Not regulated as dangerous goods
IATA Not regulated as dangerous goods
IMDG Not regulated as dangerous goods

SECTION 15: Regulatory information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

<u>Chemical name</u>	<u>CAS number</u>	<u>Reportable Quantity</u>
Sodium phosphate dibasic	7558-79-4	5000 lbs

SARA 302 Extremely Hazardous Substance (40 CFR 355 Appendices A / B)

Not regulated

SARA 304 Emergency Release Notification

Not regulated

SARA 311/312 Hazardous Chemical

<u>Chemical name</u>	<u>CAS number</u>
Sodium phosphate dibasic	7558-79-4

SARA 313 (TRI reporting)

Not regulated

TSCA Section 8(b) Chemical Inventory

All components are on the U.S. EPA TSCA Inventory list.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs)**

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Clean Water Act, Toxic and Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations**California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)**

Not regulated

Massachusetts Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Sodium phosphate dibasic	7558-79-4

New Jersey Worker and Community Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Sodium phosphate dibasic	7558-79-4

Pennsylvania Worker and Community Right-to-Know Act

<u>Chemical name</u>	<u>CAS number</u>
Sodium phosphate dibasic	7558-79-4

Rhode Island Right-to-Know Act

Not regulated

SECTION 16: Other information**NFPA Rating**

Health hazard	1
Fire hazard	0
Reactivity	0
Specific	N/A

Disclaimer

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Issue date:

May 2015

Last revisions

February 2018



SAFETY DATA SHEET

According to 29 CFR 1910.1200 Hazard Communication Standard 2012 (HazCom 2012)

SECTION 1: Identification

Product identifier	
Product name	FAS-DPD Titrating Reagent (Chlorine)
Product number	R-0871
Recommended use and restrictions	To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.
Manufacturer	Taylor Technologies, Inc. 31 Loveton Circle Sparks, MD 21152 Phone: (410) 472-4340 Emergency phone: (800) 837-8548

SECTION 2: Hazard(s) identification

Physical hazards	Not applicable
Health hazards	Not applicable
Environmental hazards	Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.
Label elements	
Hazard pictograms	Not applicable
Signal word	Not applicable
Hazard statements	Not applicable
Precautionary statements	
Prevention	Avoid contact with skin, eyes, or clothing. For contact with skin or eyes, flush 20 minutes with water. If ingested, contact physician or local poison control center. Treat symptoms as needed.
Response	This reagent is not defined as a hazardous chemical per OSHA's Hazard Communication Standard 2012; however, use care when handling.
Storage	Keep tightly capped. Store out of direct sunlight between 36°F–85°F.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazards not otherwise classified	Not applicable

SECTION 3: Composition/information on ingredients

Mixture			
Chemical name	Common name and synonyms	CAS number	% w/w
Water	Dihydrogen oxide	7732-18-5	80-100
Nonhazardous and other components below reportable levels	Not applicable	Not applicable	0.1–1

SECTION 4: First-aid measures

If inhaled

Remove individual to fresh air. Seek medical advice/attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed.

In case of skin contact

Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical advice/attention if irritation develops.

In case of eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. If symptoms persist or in all cases of concern, seek medical advice/attention.

If swallowed

Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs. If symptoms persist or in all cases of concern, seek medical advice/attention.

Most important symptoms and effects, both acute and delayed

Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects.

Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

General information

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: Firefighting measures**Extinguishing media**

Suitable extinguishing media Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Specific hazards arising from the substance or mixture

Fire hazard Not flammable
Explosion hazard Not explosive
Reactivity Hazardous reactions will not occur under normal conditions.
Hazardous combustion products Carbon oxides, iron oxides, nitrogen oxides, and sulfur oxides. Other irritating fumes and smoke.

Advice for firefighters

Precautionary measures Exercise caution when fighting any chemical fire; hazardous fumes will be present.
Firefighting equipment/instructions Use water spray or fog for cooling exposed containers.
Protection during firefighting Do not enter fire area without proper protective equipment, including respiratory protection.
Other information Refer to section 9 of the SDS for flammability properties.

SECTION 6: Accidental release measures**Personal precautions, protective equipment, and emergency procedures**

Wear appropriate protective equipment and clothing during cleanup. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.

Environmental precautions

Avoid discharge into drains, watercourses, or onto the ground.

Methods and material for containment and cleaning up

Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water. Never return spills to original containers for reuse. Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Reference to other sections

For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

SECTION 7: Handling and storage**Personal precautions, protective equipment, and emergency procedures**

Do not breathe dust or mists. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

Conditions for safe storage, including any incompatibilities

Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store away from incompatible materials (refer to section 10 of the SDS).

SECTION 8: Exposure controls/personal protection**Occupational exposure limits**

Not regulated

US NIOSH: Pocket Guide to Chemical Hazards

Not regulated

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Not regulated

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure controls

Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.
Personal protective equipment	
Eye/face protection	Wear appropriate chemical safety goggles if contact is likely to occur.
Skin protection	Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.
Body protection	Wear appropriate protective clothing if contact is likely to occur.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Form	Liquid
Color	Clear, colorless or nearly colorless
Odor	Odorless
Odor threshold	No data available
pH	2.2
Evaporation rate	No data available
Melting point	No data available
Freezing point	No data available
Initial boiling point (boiling range)	212°F (100°C)
Flash point	No data available
Specific gravity	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Upper Flammability Limit	No data available
Lower Flammability Limit	No data available
Vapor pressure	17 mm Hg
Vapor density	No data available
Solubility	Soluble in all proportions
Partition coefficient (n-octanol/water)	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

SECTION 10: Stability and reactivity

Reactivity	Hazardous reactions will not occur under normal conditions.
Chemical stability	Stable under recommended handling and storage conditions (refer to section 7 of the SDS).
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Bases, chlorates, carbides, fulminates, nitrates and metal compounds.
Hazardous decomposition products	Hazardous reactions will not occur under normal conditions.

SECTION 11: Toxicological information

Information on toxicological effects

Likely routes of exposure are skin/eye contact and ingestion.

Most important symptoms/effects, acute and delayed

Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness and itching.

Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties.

Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

Acute toxicity

This product is not classified as an acute toxicity hazard.

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory sensitization

No data available

Skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

US National Toxicology Program (NTP) Report on Carcinogens

Not regulated

Reproductive toxicity

No data available

Specific target organ toxicity (single exposure)

No data available

Specific target organ toxicity (repeated exposure)

No data available

Aspiration hazard

No data available

SECTION 12: Ecological information

Ecotoxicity

This product is not classified as environmentally hazardous.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Large or frequent spills can have a harmful or damaging effect on the environment.

SECTION 13: Disposal considerations

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

DOT

Not regulated as dangerous goods

IATA

Not regulated as dangerous goods

IMDG

Not regulated as dangerous goods

SECTION 15: Regulatory information

US federal regulations

CERCLA Hazardous Substance (40 CFR 302.4)

Not regulated

SARA 302 Extremely Hazardous Substance (40 CFR 355 Appendices A / B)

Not regulated

SARA 304 Emergency Release Notification

Not regulated

SARA 311/312 Hazardous Chemical

Not regulated

SARA 313 (TRI reporting)

Not regulated

TSCA Section 8(b) Chemical Inventory

All components are on the U.S. EPA TSCA Inventory list.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs)

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Clean Water Act, Toxic and Priority Pollutants (40 CFR 401.15 and CFR 423, Appendix A)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)

Not regulated

Massachusetts Right-to-Know Act

Not regulated

New Jersey Worker and Community Right-to-Know Act

Not regulated

Pennsylvania Worker and Community Right-to-Know Act

Not regulated

Rhode Island Right-to-Know Act

Not regulated

SECTION 16: Other information

NFPA Rating

Health hazard	0
Fire hazard	0
Reactivity	0
Specific	N/A

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Issue date:

May 2015

Last revisions

April 2018