

Safety Data Sheet - Cover Page

The products listed below meet the criteria for classification as hazardous in accordance with The Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Please refer to the indicated Safety Data Sheet (SDS) for information concerning hazards and appropriate protective measures. SDS for products not classified as hazardous are available on request. Visit www.cellsignal.com for additional technical information and support.

| Kit No. | Product name | | |
|-------------------|--|--|--|
| 12727 | Immunofluorescence Application Solutions Kit | Immunofluorescence Application Solutions Kit | |
| | | | |
| Kit Component No. | Product name | | |
| 12528 | IF Wash Buffer | | |

16% Formaldehyde Methanol-free

12606



Safety Data Sheet (SDS)According to the OSHA Hazard Communication Standard 29 CFR 1910.1200Issuing Date:2014-06-09Revision Date:2015-05-14

Version: 2

SECTION 1. Identification

Product identifier

| Product number | 12528 |
|--|--|
| Product name | IF Wash Buffer (10X) |
| Recommended use of the chemical | and restrictions on use |
| ldentified uses | This product is intended for research purposes only. |
| Uses advised against | This product is not intended for use in diagnostic procedures or therapeutics. |
| Manufacturer, importer, supplier | This product is not intended for use in humans or animals. |
| Manufacturer address Website Email address Emergency telephone number | Cell Signaling Technology, Inc. 3 Trask Lane Danvers, MA 01923 United States TEL: +1 978 867 2300 FAX: +1 978 867 2400 www.cellsignal.com support@cellsignal.com In case of emergency call CHEMTREC 1-800-424-9300 |

SECTION 2. Hazard(s) identification

Classification

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

| Serious eve damage/eve irritation Category 2B |
|---|
|---|

GHS Label elements, including precautionary statements

Signal Word Warning

Hazard statement(s) Causes eye irritation.

Precautionary Statement(s)

Wash face, hands and any exposed skin thoroughly after handling.

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.

Supplementary Hazard Information

No information available.

SECTION 3. Composition/information on ingredients

| Chemical Name | CAS No | Weight % |
|------------------------------------|------------|----------|
| sodium azide | 26628-22-8 | <0.1 |
| dipotassium hydrogenorthophosphate | 7758-11-4 | 0.5-1.5 |
| sodium chloride | 7647-14-5 | 5-10 |

SECTION 4. First-aid measures

| Eye contact | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
|--------------|--|
| Skin contact | Wash skin with soap and water. |
| Inhalation | Move to fresh air. |
| Ingestion | If swallowed, do not induce vomiting - seek medical advice. |

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Advice for emergency responders

| General advice | For further assistance, contact your local Poison Control Center. |
|----------------------------|---|
| Protection of first-aiders | Ensure that medical personnel are aware of the material(s) involved, and take precautions |
| | to protect themselves. |

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable Extinguishing MediaUse extinguishing measures that are appropriate to local circumstances and the
surrounding environment.Unsuitable Extinguishing MediaCAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

No information available.

Explosion Data

Sensitivity to Mechanical Impact None. Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters

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

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnelEnsure adequate ventilation.Other informationNo information available.

Environmental precautions

See Section 12 for additional information.

Methods and material for containment and cleaning up

| Methods for | containment |
|-------------|-------------|
| Methods for | cleaning up |

Prevent further leakage or spillage if safe to do so. Pick up and transfer to properly labeled containers.

SECTION 7. Handling and storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

| Technical measures/Storage conditions | Keep containers tightly closed in a dry, cool and well-ventilated place. |
|--|--|
| Packaging material | No information available. |
| Incompatible products | None known based on information supplied. |

SECTION 8. Exposure controls/personal protection

Control parameters

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH REL |
|---------------|---------------------------------|----------|--------------------------------|
| sodium azide | Ceiling: 0.29 mg/m ³ | - | Ceiling: 0.1 ppm |
| | Ceiling: 0.11 ppm | | Ceiling: 0.3 mg/m ³ |

Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipment

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

| Eye/face protection Skin and body protection Respiratory protection | Safety glasses with side-shields. Wear protective gloves/clothing. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. |
|---|---|
| Hygiene measures | Handle in accordance with good industrial hygiene and safety practice. |

SECTION 9. Physical and chemical properties

Information on basic physical and chemical properties

| Physical state | Liquid |
|-----------------------------------|---------------------------|
| Appearance | Clear |
| Color | Colorless |
| Odor | No information available |
| Odor Threshold | No information available |
| рН | 7.4 @ 20 °C |
| Melting point/freezing point | No information available |
| Initial boiling point and boiling | No information available |
| range | |
| Flash point | No information available. |

| Evaporation rate | No information available |
|--|---------------------------|
| Flammability (solid, gas) | No information available |
| Upper flammability limit | No information available. |
| Lower flammability limit | No information available. |
| Vapor pressure | No information available |
| Vapor density | No information available |
| Relative density | No information available |
| Solubility | No information available. |
| Solubility in other solvents | No information available |
| Partition coefficient: n-octanol/water | rNo information available |
| Autoignition temperature | No information available |
| Decomposition temperature | No information available. |
| Explosive properties | No information available |
| Oxidizing properties | No information available |
| VOC content | No information available |
| Viscosity | No information available. |
| Density | No information available. |
| Solubility in other solvents | No information available |
| | |

SECTION 10. Stability and reactivity

Reactivity

No information available.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

| Hazardous reactions | None under normal processing. |
|--------------------------|-------------------------------|
| Hazardous polymerization | None under normal processing. |

Conditions to Avoid

No information available.

Incompatible Materials

None known based on information supplied.

Hazardous Decomposition Products

None known based on information supplied.

SECTION 11. Toxicological information

Information on likely routes of exposure

| Inhalation | There is no data available for this product. |
|--------------|--|
| Eye contact | May cause temporary eye irritation. |
| Skin contact | There is no data available for this product. |
| Ingestion | There is no data available for this product. |

Information on toxicological effects

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxocological and physiological properties of this compound is not well defined.

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---------------|------------------|------------------|------------------|
| sodium azide | 27 mg/kg (Rat) | 50 mg/kg (Rat) | 37 mg/m³ (Rat) |

| dipotassium hydrogenorthophosphate | 4900 mg/kg (Rat) | - | - |
|---------------------------------------|---------------------|------------------------|------------------------|
| sodium chloride | 3000 mg/kg (Rat) | > 10000 mg/kg (Rabbit) | > 42000 mg/m³ (Rat)1 h |
| water | > 90000 mg/kg (Rat) | - | - |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| Symptoms Serious eye damage/eye irritation | No information available. Mildly irritating to eyes. |
|--|--|
| Sensitization | No information available. |
| Mutagenic effects | No information available. |
| Carcinogenicity | No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible or confirmed carcinogen by IARC, ACGIH, NTP, or OSHA. |
| Reproductive toxicity | No information available. |
| STOT - single exposure | No information available. |
| STOT - repeated exposure | No information available. |
| Neurological effects | No information available. |
| Aspiration Hazard | No information available. |

SECTION 12. Ecological information

Ecotoxicity

1.68% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

| Chemical Name | Toxicity to algae | Toxicity to fish | Toxicity to daphnia and other aquatic invertebrates |
|-----------------|---|---|--|
| sodium azide | EC50 0.35 mg/L (Pseudokirchneriella subcapitata) 96 h | LC50 0.7 mg/L (Lepomis macrochirus) 96 h | LC100 1 mg/L (Orconectes rusticus) 96 h |
| sodium chloride | - | LC50 4747 - 7824 mg/L (Oncorhynchus mykiss) 96 h LC50 12946 mg/L (Lepomis macrochirus) 96 h LC50 5560 - 6080 mg/L (Lepomis macrochirus) 96 h LC50 6420 - 6700 mg/L (Pimephales promelas) 96 h LC50 7050 mg/L (Pimephales promelas) 96 h LC50 6020 - 7070 mg/L (Pimephales promelas) 96 h | EC50 340.7 - 469.2 mg/L (Daphnia magna) 48 h EC50 1000 mg/L (Daphnia magna) 48 h |

| Persistence and degradability | No information available. |
|-------------------------------|---------------------------|
| Bioaccumulation | No information available. |
| Mobility | No information available |

Other adverse effects

No information available.

SECTION 13. Disposal considerations

Waste Disposal Methods

Dispose of in accordance with all applicable national environmental laws and regulations.

Disposal considerations

Do not empty into drains; dispose of this material and its container in a safe way.

SECTION 14. Transport information

This material is not subject to regulation as a hazardous material for shipping.

SECTION 15. Regulatory information

North American Inventory Listing

| Chemical Name | TSCA 8(b) | TSCA 12(b) | DSL | NDSL |
|------------------------|-----------|------------|--------|------------|
| sodium azide | Listed | Not Listed | Listed | Not Listed |
| dipotassium | Listed | Not Listed | Listed | Not Listed |
| hydrogenorthophosphate | | | | |
| sodium chloride | Listed | Not Listed | Listed | Not Listed |

Canadian Workplace Hazardous Materials Information System (WHMIS) Classification

This product does not meet the criteria for classification under the Hazardous Products Act.

SARA 313

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

| Chemical Name | CAS No | SARA 313 - Threshold Values % |
|--------------------------------|------------|-------------------------------|
| sodium azide | 26628-22-8 | 1.0 |
| SARA 311/312 Hazard Categories | | |

| Acute Health Hazard | Yes |
|-----------------------------------|-----|
| Chronic Health Hazard | No |
| Fire Hazard | No |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

Clean Water Act

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

CERCLA

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

| Chemical Name | Hazardous Substances RQs | Extremely Hazardous Substances RQs |
|---------------|--------------------------|---------------------------------------|
| sodium azide | 1000 lb | 1000 lb |

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---------------|------------|---------------|--------------|
| sodium azide | Listed | Listed | Listed |

U.S. FIFRA Label Information

This product does not contain any substances regulated as pesticides.

US Commerce Department - Export Administration Regulations Information

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

U.S. Drug Enforcement Administration Information

This product does not contain any substances regulated under the DEA.

SECTION 16. Other information

Issuing Date: 2014-06-09 Revision Date: 2015-05-14 Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



SAFETY DATA SHEET (SDS): According to the OSHA Hazard Communication Standard 29 CFR 1910.1200 Issuing Date: 2014-04-02 Revision Date: 2014-05-07

Version: 1

SECTION 1. Identification

Product identifier

| Product No. | 12606 |
|-------------------------------|---------------------------------|
| Product name | 16% Formaldehyde, Methanol-Free |
| UN number | UN3334 |
| Other means of identification | 12606S, 12606P, 12606P2 |

Recommended use of the chemical and restrictions on use

| Identified uses | This product is intended for research purposes only. |
|----------------------------------|--|
| Uses advised against | This product is not intended for use in diagnostic procedures or therapeutics. |
| Manufacturer, importer, supplier | This product is not intended for use in humans or animals. |
| Manufacturer address | Cell Signaling Technology, Inc. 3 Trask Lane Danvers, MA 01923 TEL: +1 978 867 2300 FAX: +1 978 867 2400 |
| Website | www.cellsignal.com |
| Email address | support@cellsignal.com |
| Company phone number | 978-867-2300 |
| Emergency telephone number | In case of emergency call CHEMTREC 1-800-424-9300 |

SECTION 2. Hazard(s) identification

Classification

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

| Acute oral toxicity | Category 4 |
|--|-------------|
| Acute dermal toxicity | Category 4 |
| Acute inhalation toxicity | Category 3 |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2A |
| Skin sensitization | Category 1 |
| Germ cell mutagenicity | Category 1B |
| Carcinogenicity | Category 1A |
| Specific target organ toxicity - single exposure (STOT SE) | Category 3 |

GHS Label elements, including precautionary statements



Signal Word Danger

Hazard statement(s)

Harmful if swallowed Harmful in contact with skin Toxic if inhaled Causes skin irritation Causes serious eye irritation May cause an allergic skin reaction May cause genetic defects May cause cancer May cause respiratory irritation

Precautionary Statement(s)

Obtain special instructions before use Wear protective gloves/protective clothing/eye protection/face protection Call a POISON CENTER or doctor/physician if you feel unwell IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Store in a well-ventilated place. Keep container tightly closed

Supplementary Hazard Information

Hazards not otherwise classified (HNOC) None

SECTION 3. Composition/information on ingredients

Formula

CH₂O

| Chemical Name | CAS No. | Weight % |
|-------------------------------|---------|----------|
| formaldehyde (non-stabilised) | 50-00-0 | 10-30 |

SECTION 4. First-aid measures

| Eye contact | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
|--------------|---|
| Skin contact | Wash skin with soap and water. |
| Inhalation | Move to fresh air. |
| Ingestion | Rinse mouth. |

Most important symptoms and effects, both acute and delayed

Low-dose acute exposure can result in headache, rhinitis, and dyspnea; higher doses may cause severe mucous membrane irritation, burning, and lacrimation, and lower respiratory effects such as bronchitis, pulmonary edema, or pneumonia. Sensitive individuals may experience asthma and dermatitis, even at very low doses. Ocular exposure to formaldehyde vapors produces irritation and lacrimation. Depending on the concentration, formaldehyde solutions may cause transient discomfort and irritation or more severe effects, including corneal opacification and loss of vision. Formaldehyde is absorbed through intact skin and may cause irritation or allergic dermatitis. Ingestion may cause corrosive injury to the gastrointestinal mucosa, with nausea, vomiting, pain, bleeding, and perforation. Systemic effects include metabolic acidosis, CNS depression and coma, respiratory distress, and renal failure.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Advice for emergency responders

| General advice Protection of First-aiders | For further assistance, contact your local Poison Control Center. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves |
|--|---|
| | to protect themselves. |

SECTION 5. Fire-fighting measures

Extinguishing media

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

Unsuitable Extinguishing Media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

No information available.

Explosion Data

Sensitivity to Mechanical Impact None. Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters

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

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

| For non-emergency personnel | Ensure adequate ventilation. |
|-----------------------------|------------------------------|
| Other information | No information available. |

Environmental precautions

See Section 12 for additional information.

Methods and material for containment and cleaning up

| Methods for containment | Prevent further leakage or spillage if safe to do so. |
|-------------------------|---|
| Methods for cleaning up | Pick up and transfer to properly labeled containers. |

SECTION 7. Handling and storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

| Technical measures/Storage conditions | Keep containers tightly closed in a dry, cool and well-ventilated place. |
|--|--|
| Packaging material | No information available. |
| Incompatible products | Strong oxidizing agents, Alkalis, Acids, Phenols, Urea. |

SECTION 8. Exposure controls/personal protection

Control parameters

| Occupational exposure limit values | | | |
|------------------------------------|------------------|-------------------------------|--|
| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH REL |
| formaldehyde (non-stabilised) | Ceiling: 0.3 ppm | TWA : 0.75 ppm STEL: 2 ppm | IDLH : 20 ppm TWA : 0.016 ppm Ceiling: 0.1 ppm |

Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipment

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

| Eye/face protection Skin and body protection Respiratory protection | Safety glasses with side-shields. Wear protective gloves/clothing. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved |
|---|---|
| | respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. |
| Hygiene measures | Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. |

SECTION 9. Physical and chemical properties

Information on basic physical and chemical properties

| Physical state Appearance Odor Color Odor Threshold pH Melting point/freezing point Initial boiling point and boiling range Flash point Evaporation rate Flammability (solid, gas) Upper flammability limit Lower flammability limit Vapor pressure Vapor density Relative density Solubility Solubility in other solvents Partition coefficient: n-octanol/wate Autoignition temperature | Liquid Clear Pungent Characteristic Light yellow No information available 5.4 @ 20 °C No information available -19.5 °C (formaldehyde) 185 °C Closed cup (37% formaldehyde, methanol-free) No information available 73% No information available. 7% No information available. 3,890 mm Hg @ 25 °C (formaldehyde) No information available. 3,890 mm Hg @ 25 °C (formaldehyde) No information available No information available |
|---|--|
| | |
| Decomposition temperature | No information available. |
| Explosive properties | No information available |
| Oxidizing properties | No information available |
| VOC content | No information available |
| Viscosity | No information available. |
| Density | No information available. |

SECTION 10. Stability and reactivity

Reactivity

No information available.

Chemical stability

Stable under recommended storage conditions. Sealed with nitrogen gas.

Possibility of hazardous reactions

| Hazardous reactions | None under normal processing. |
|--------------------------|-------------------------------|
| Hazardous polymerization | Polymerization can occur. |

Conditions to Avoid

No information available.

Incompatible Materials

Strong oxidizing agents, Alkalis, Acids, Phenols, Urea.

Hazardous Decomposition Products

None under normal use. Reacts with HCl to form bis-Chloromethyl ether.

SECTION 11. Toxicological information

Information on likely routes of exposure

| Inhalation | Vapours may irritate throat and respiratory system. Toxic by inhalation. |
|--------------|--|
| Eye contact | Vapor may cause irritation. Contact with eyes may cause irritation. |
| Skin contact | Irritating to skin. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Harmful in contact with skin. |
| Ingestion | Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |

Information on toxicological effects

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxocological and physiological properties of this compound is not well defined.

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-------------------------------|-------------------|----------------------|-----------------------|
| formaldehyde (non-stabilised) | = 100 mg/kg (Rat) | = 270 mg/kg (Rabbit) | = 250 ppm (Rat) 4 h |

NOAEL Oral Value

Rat 2-Year Bioassay: 15 mg/kg/day Rat 2-Year Bioassay: 82 mg/kg/day (Reduced weight gain,histopathology in rats)

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| Symptoms | Low-dose acute exposure can result in headache, rhinitis, and dyspnea; higher doses may cause severe mucous membrane irritation, burning, and lacrimation, and lower respiratory effects such as bronchitis, pulmonary edema, or pneumonia. Sensitive individuals may experience asthma and dermatitis, even at very low doses. Ocular exposure to formaldehyde vapors produces irritation and lacrimation. Depending on the concentration, formaldehyde solutions may cause transient discomfort and irritation or more severe effects, including corneal opacification and loss of vision. Formaldehyde is absorbed through intact skin and may cause irritation or allergic dermatitis. Ingestion may cause corrosive injury to the gastrointestinal mucosa, with nausea, vomiting, pain, bleeding, and perforation. Systemic effects include metabolic acidosis, CNS depression and coma, respiratory distress, and renal failure. |
|---------------------------|--|
| Skin corrosion/irritation | Irritating to skin. |
| Serious eye damage/eye | Irritating to eyes. |
| irritation | |
| Corrosivity | No information available. |
| Sensitization | May cause sensitization of susceptible persons. |
| Mutagenic effects | No specific testing was done on this product. Mutagenic testing of the hazardous ingredient in this product has resulted in some positive mutagenic results. |
| Carcinogenicity | The list below indicates any ingredient listed as a carcinogen: |

| Chemical Name | IARC | NTP | OSHA |
|-------------------------------|------|-------|------|
| formaldehyde (non-stabilised) | 1 | Known | Х |
| 50-00-0 | | | |

Legend:

IARC: (International Agency for Research on Cancer) Group 1 - Carcinogenic to Humans NTP: (National Toxicity Program) Known - Known Carcinogen OSHA: (Occupational Safety & Health Administration) X - Present

| Reproductive toxicity | There is limited evidence that formaldehyde causes adverse reproductive effects. Formaldehyde has not been proven to be teratogenic in animals and is probably not a human teratogen at occupationally permissible levels. |
|--------------------------|--|
| STOT - single exposure | Respiratory system. |
| STOT - repeated exposure | No information available. |
| Neurological effects | No information available. |
| Aspiration Hazard | No information available. |

SECTION 12. Ecological information

Ecotoxicity

Product does not present an aquatic toxicity hazard based on known or supplied information.

| Chemical Name | Toxicity to algae | Toxicity to fish | Toxicity to daphnia and other aquatic invertebrates |
|-------------------------------|-------------------|---|--|
| formaldehyde (non-stabilised) | - | LC50 41 mg/L (Brachydanio rerio) 96 h LC50 23.2 - 29.7 mg/L (Pimephales promelas) 96 h LC50 1510 μg/L (Lepomis macrochirus) 96 h LC50 100 - 136 mg/L (Oncorhynchus mykiss) 96 h LC50 22.6 - 25.7 mg/L (Pimephales promelas) 96 h LC50 0.032 - 0.226 mL/L (Oncorhynchus mykiss) 96 h | |

Persistence and degradability **Bioaccumulation** Mobility

Readily biodegradable. Does not bioaccumulate.

Will likely be mobile in the environment due to its water solubility

| Chemical Name | Octanol-Water Partition Coefficient |
|-------------------------------|-------------------------------------|
| formaldehyde (non-stabilised) | 0.35 |

Other adverse effects

No information available.

SECTION 13. Disposal considerations

Waste Disposal Methods

Dispose of in accordance with all applicable national environmental laws and regulations.

Disposal considerations

Do not empty into drains; dispose of this material and its container in a safe way.

SECTOIN 14. Transport information

This material is subject to regulation as a hazardous material for shipping when offered or intended by aircraft.

DOT

| UN number UN proper shipping name Transport hazard class(es) Special precautions for user Emergency Response Guide Number | UN3334 Aviation regulated liquid, n.o.s. (formaldehyde) 9 A35, A189 171 |
|--|---|
| IATA | |
| UN number UN proper shipping name Transport hazard class(es) Packing Group Special precautions for user | UN3334 Aviation regulated liquid, n.o.s. (formaldehyde) 9 III A27 |

SECTION 15. Regulatory information

North American Inventory Listing

| Chemical Name | TSCA 8(b) | TSCA 12(b) | DSL | NDSL |
|-------------------------------|-----------|------------|--------|------------|
| formaldehyde (non-stabilised) | Listed | Not Listed | Listed | Not Listed |

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

| Chemical Name | CAS No. | SARA 313 - Threshold Values % |
|-------------------------------|---------|-------------------------------|
| formaldehyde (non-stabilised) | 50-00-0 | 0.1 |

SARA 311/312 Hazard Categories

| Acute Health Hazard Chronic Health Hazard Fire Hazard Sudden Release of Pressure Hazard Pagative Hazard | Yes Yes No No |
|---|------------------------|
| Reactive Hazard | No |
| | |

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

| Chemical Name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances | CWA - Bioaccumulative Chemicals of Concern (BCCs) |
|----------------------------------|--------------------------------|---------------------------|------------------------------|-------------------------------|--|
| formaldehyde (non-stabilised) | 100 lb | Not Listed | Not Listed | Listed | Not Listed |

<u>CERCLA</u>

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

| Chemical Name | Hazardous Substances RQs | Extremely Hazardous Substances RQs |
|-------------------------------|--------------------------|---------------------------------------|
| formaldehyde (non-stabilised) | 100 lb | 100 lb |

California Proposition 65

This product contains the following Proposition 65 chemicals:

| Chemical Name | California Prop. 65 | |
|-------------------------------|---------------------|--|
| formaldehyde (non-stabilised) | Carcinogen | |

U.S. State Right-to-Know Regulations

This product contains the following U.S. State Right to Know chemicals:

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|-------------------------------|------------|---------------|--------------|
| formaldehyde (non-stabilised) | Listed | Listed | Listed |

U.S. FIFRA Label Information

This product does not contain any substances regulated as pesticides.

US Commerce Department - Export Administration Regulations Information

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

U.S. Drug Enforcement Administration Information

This product does not contain any substances regulated under the DEA.

SECTION 16. Other information

Issuing Date: 2014-04-02 Revision Date: 2014-05-07 Disclaimer

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End of Safety Data Sheet