Aerospray® Hematology Pro Reagent A, Buffer (pH 7.2) Concentrate

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Product name : Aerospray® Hematology Pro Reagent A, Buffer (pH 7.2) Concentrate
Product code : SS-172A

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : Staining reagent concentrate
Recommended use : Professional use only

1.4. Supplier's details

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370 West 1700 South
Logan, UT, Cache, 84321
USA
T +1 (435) 752-6011 - F +1 (435) 752-4127
qara_ebs@elitechgroup.com - www.elitechgroup.com

1.5. Emergency phone number

Emergency number : Contact your distributor or poison control center in your country.
InfoTrac Emergency Response: Calls within the USA, phone: 1-800-535-5053. Calls outside the USA, phone: +1 352-323-3500 (call collect)
Customer ID: #90104 (NOTE: this number is required when a customer calls into either phone number above).

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquid, Category 4	H227	Combustible liquid.
Corrosive to metals, Category 1	H290	May be corrosive to metals.
Acute toxicity (oral), Category 4	H302	Harmful if swallowed.
Skin corrosion/irritation, Category 1C	H314	Causes severe skin burns and eye damage.
Skin sensitization, Category 1	H317	May cause an allergic skin reaction.
Germ cell mutagenicity, Category 2	H341	Suspected of causing genetic defects.
Carcinogenicity, Category 1A	H350	May cause cancer (Inhalation, oral).
Reproductive toxicity, Category 1B	H360	May damage fertility or the unborn child (Inhalation, oral).
Specific target organ toxicity — Single exposure, Category 1	H370	Causes damage to organs (Inhalation, oral).
Specific target organ toxicity — Repeated exposure, Category 2	H373	May cause damage to organs through prolonged or repeated exposure.

Full text of H statements : see section 16

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2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) : H227 - Combustible liquid
H290 - May be corrosive to metals
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H341 - Suspected of causing genetic defects.
H350 - May cause cancer (Inhalation, oral).
H360 - May damage fertility or the unborn child (Inhalation, oral)
H370 - Causes damage to organs (Inhalation, oral).
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS US) : P201 - Obtain special instructions before use.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 - Do not breathe mist, spray, vapors, fume.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves, protective clothing, eye protection.
P301+P312 - If swallowed: Call a doctor, a POISON CENTER if you feel unwell.
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.
P302+P352 - If on skin: Wash with plenty of soap and water.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P333+P313 - If skin irritation or rash occurs: Get medical advice or attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use ABC-powder, alcohol resistant foam, carbon dioxide (CO2) to extinguish.
P390 - Absorb spillage to prevent material-damage.
P403 - Store in a well-ventilated place.
P501 - Dispose of hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
maleic acid	CAS-No.: 110-16-7	5 – 15	Skin Corr. 1, H314 Skin Sens. 1, H317 STOT SE 3, H335
potassium hydroxide	CAS-No.: 1310-58-3	5 – 15	Met. Corr. 1, H290 Acute Tox. 4 (Oral), H302 Skin Corr. 1, H314
1H-imidazole	CAS-No.: 288-32-4	5 – 15	Acute Tox. 4 (Oral), H302 Skin Corr. 1C, H314 Repr. 1B, H360 STOT RE 2, H373
formaldehyde	CAS-No.: 50-00-0	< 10	Flam. Gas 1, H220 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Acute Tox. 2 (Inhalation:gas), H330 Skin Sens. 1A, H317 Muta. 2, H341 Carc. 1A, H350
methanol	CAS-No.: 67-56-1	< 5	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Acute Tox. 3 (Inhalation:vapour), H331 STOT SE 1, H370

Full text of hazard classes and H-statements : see section 16

SECTION 4 First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. Immediately call a poison center or doctor/physician.

First-aid measures after skin contact : Wash with water and soap. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention. Rinse skin with water/shower.

First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. Call a physician immediately.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell. Immediately call a poison center or doctor/physician.

Personal protection for first-aid responders. : First-aiders should consider self-protection and use the recommended personal protective equipment (see section 8).

4.2. Most important symptoms/effects, acute and delayed

Potential Adverse human health effects and symptoms : Harmful if swallowed. Harmful in contact with skin.

Symptoms/effects after inhalation : May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Symptoms/effects after skin contact : Burns. May cause an allergic skin reaction.

Symptoms/effects after eye contact : Serious damage to eyes.

Symptoms/effects after ingestion : Swallowing a small quantity of this material will result in serious health hazard. Harmful if swallowed. Burns.

Chronic symptoms : May damage fertility or the unborn child.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : ABC powder. Alcohol-resistant foam. Carbon dioxide. Dry powder. Foam. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : Combustible liquid. Could burn but do not ignite readily.

Explosion hazard : No direct explosion hazard.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Do not enter fire area without proper protective equipment, including respiratory protection.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Evacuate unnecessary personnel. No open flames, no sparks, and no smoking. Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapors/spray.

For emergency responders

Protective equipment	:	Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. Avoid breathing dust/fume/gas/mist/vapors/spray. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	:	Ventilate area. Evacuate unnecessary personnel. Stop leak if safe to do so.
Environmental precautions	:	Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Notify authorities if product enters sewers or public waters.

6.2. Methods and materials for containment and cleaning up

For containment	:	Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.
Methods for cleaning up	:	Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Notify authorities if product enters sewers or public waters.
Other information	:	Dispose of materials or solid residues at an authorized site.

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.
Hygiene measures	:	Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Separate working clothes from town clothes. Launder separately. Always wash hands after handling the product.
Additional hazards when processed	:	Not expected to present a significant hazard under anticipated conditions of normal use.

7.2. Conditions for safe storage, including incompatibilities

Technical measures	:	Keep in a cool, well-ventilated place away from heat.
Storage conditions	:	Keep container tightly closed. Store in a well-ventilated place. Keep cool. Keep only in original container.
Incompatible products	:	Strong bases. Strong acids.
Incompatible materials	:	Sources of ignition. Direct sunlight. Metals.
Packaging materials	:	Always store product in container of same material as original container.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

Aerospray® Hematology Pro Reagent A, Buffer (pH 7.2) Concentrate	
USA - ACGIH® - Threshold Limit Values	
Local name	Formaldehyde
ACGIH® TLV® TWA	0.12 mg/m³
	0.1 ppm
ACGIH® TLV® STEL	0.37 mg/m³
	0.3 ppm
Remark (ACGIH®)	TLV® Basis: URT & eye irr; URT cancer. Notations: DSEN; RSEN; A1 (Confirmed Human Carcinogen)
Regulatory reference	ACGIH 2025

potassium hydroxide (1310-58-3)	
USA - ACGIH® - Threshold Limit Values	
Local name	Potassium hydroxide
ACGIH® TLV® C	2 mg/m³
Remark (ACGIH®)	URT, eye, & skin irr
Regulatory reference	ACGIH 2025
USA - Cal/OSHA - Occupational Exposure Limits	
Local name	Potassium hydroxide; caustic potash
Cal/OSHA PEL (OEL TWA)	2 mg/m³
Cal/OSHA C	2 mg/m³
Regulatory reference	California Division of Occupational Safety and Health (Cal/OSHA) - Permissible Exposure Limit for Chemical Contaminants (Table AC-1)

formaldehyde (50-00-0)	
USA - ACGIH® - Threshold Limit Values	
Local name	Formaldehyde
ACGIH® TLV® TWA	0.12 mg/m³
	0.1 ppm
ACGIH® TLV® STEL	0.37 mg/m³
	0.3 ppm
Remark (ACGIH®)	URT & eye irr
Regulatory reference	ACGIH 2025

methanol (67-56-1)	
USA - ACGIH® - Threshold Limit Values	
Local name	Methanol
ACGIH® TLV® TWA	262 mg/m³
	200 ppm
ACGIH® TLV® STEL	328 mg/m³

methanol (67-56-1)	
	250 ppm
Remark (ACGIH®)	Headache; eye dam; dizziness; nausea
Regulatory reference	ACGIH 2025
USA - ACGIH® - Biological Exposure Indices	
Local name	Methanol
BEI (BLV)	15 mg/l Parameter: Methanol - Medium: urine - Sampling time: End of shift - Notations: B, Ns
Regulatory reference	ACGIH 2025
USA - OSHA - Occupational Exposure Limits	
Local name	Methyl alcohol
OSHA PEL TWA	260 mg/m³
	200 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Wash hands thoroughly after handling.

Materials for protective clothing:
Wear protective clothing

Hand protection:				
Wear protective gloves				
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**
Disposable gloves	Nitrile rubber (NBR), Latex	3 (> 60 minutes)	0.1 - 0.15	

Eye protection:
Chemical goggles or safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
Wear suitable respiratory equipment in case of insufficient ventilation

Personal protective equipment symbol(s):



Other information:
Do not eat, drink or smoke during use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Liquid
Color	:	Colorless
Odor	:	Characteristic
Odor threshold	:	No data available
pH	:	≈ 7.37
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	98.9 °C (ASTM 86)
Flash point	:	78 °C (ASTM D93)
Flammability (solid, gas)	:	Combustible liquid.
Vapor pressure	:	No data available
Relative vapor density at 20°C	:	No data available
Relative density	:	No data available
Solubility	:	Water: No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Explosion limits	:	No data available
Particle characteristics	:	No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

10.1. Reactivity

Corrosive vapors.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Strong acids. Strong bases. metals. May be corrosive to metals.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

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SECTION 11 Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

maleic acid (110-16-7)	
LD50 oral rat	2870 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2470 - 3250
LD50 dermal rabbit	2620 mg/kg body weight Animal: rabbit, Animal sex: female, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
ATE US (oral)	2870 mg/kg body weight
ATE US (dermal)	2620 mg/kg body weight

potassium hydroxide (1310-58-3)	
LD50 oral rat	333 – 388 mg/kg body weight (Equivalent or similar to OECD 425, Rat, Male, Experimental value, Oral, 14 day(s))
ATE US (oral)	360.5 mg/kg body weight

1H-imidazole (288-32-4)	
LD50 oral rat	≈ 970 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
ATE US (oral)	500 mg/kg body weight

formaldehyde (50-00-0)	
LD50 oral rat	800 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male, Experimental value, 2 % aqueous solution, Oral, 14 day(s))
ATE US (oral)	800 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (gases)	100 ppmV/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h

methanol (67-56-1)	
LD50 oral rat	1187 – 2769 mg/kg body weight (BASF test, Rat, Male / female, Experimental value, 15-35 % aqueous solution, Oral, 7 day(s))
LD50 oral	101.01 mg/kg (Acute toxicity, Oral, Estimate)
LC50 Inhalation - Rat	3.03 mg/l air (BASF test, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours))
ATE US (oral)	101.01 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	3.03 mg/l/4h
ATE US (dust, mist)	3.03 mg/l/4h

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Skin corrosion/irritation : Causes severe skin burns.
pH: ≈ 7.37

maleic acid (110-16-7)	
pH	1.5 (1.2 %)

potassium hydroxide (1310-58-3)	
pH	13.5 (0.56 %, 25 °C)

1H-imidazole (288-32-4)	
pH	10.5 (7 %)

formaldehyde (50-00-0)	
pH	2.8 – 4 (37 %)

methanol (67-56-1)	
pH	No data available in the literature

Serious eye damage/irritation : Assumed to cause serious eye damage
pH: ≈ 7.37

maleic acid (110-16-7)	
pH	1.5 (1.2 %)

potassium hydroxide (1310-58-3)	
pH	13.5 (0.56 %, 25 °C)

1H-imidazole (288-32-4)	
pH	10.5 (7 %)

formaldehyde (50-00-0)	
pH	2.8 – 4 (37 %)

methanol (67-56-1)	
pH	No data available in the literature

Respiratory or skin sensitization : May cause an allergic skin reaction.

Germ cell mutagenicity : Suspected of causing genetic defects.

Carcinogenicity : May cause cancer (Inhalation, oral).

formaldehyde (50-00-0)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	Known Human Carcinogens

Reproductive toxicity : May damage fertility or the unborn child (Inhalation, oral).

methanol (67-56-1)	
NOAEL (animal/male, F0/P)	< 1000 mg/kg body weight (Animal: mouse, Animal sex: male)

STOT-single exposure : Causes damage to organs (Inhalation, oral).

maleic acid (110-16-7)	
STOT-single exposure	May cause respiratory irritation.

methanol (67-56-1)	
STOT-single exposure	Causes damage to organs.

STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

1H-imidazole (288-32-4)	
NOAEL (oral,rat,90 days)	60 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

maleic acid (110-16-7)	
Viscosity, kinematic	Not applicable (solid)
potassium hydroxide (1310-58-3)	
Viscosity, kinematic	Not applicable (solid)
1H-imidazole (288-32-4)	
Viscosity, kinematic	No data available in the literature
formaldehyde (50-00-0)	
Viscosity, kinematic	No data available in the literature
methanol (67-56-1)	
Viscosity, kinematic	0.68 – 0.747 mm²/s

Potential Adverse human health effects and symptoms : Harmful if swallowed. Harmful in contact with skin.

Symptoms/effects after inhalation : May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Symptoms/effects after skin contact : Burns. May cause an allergic skin reaction.

Symptoms/effects after eye contact : Serious damage to eyes.

Symptoms/effects after ingestion : Swallowing a small quantity of this material will result in serious health hazard. Harmful if swallowed. Burns.

Chronic symptoms : May damage fertility or the unborn child.

SECTION 12 Ecological information

12.1. Ecotoxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified

maleic acid (110-16-7)	
EC50 - Crustacea [1]	42.81 mg/l Test organisms (species): Daphnia magna
EC50 - Crustacea [2]	≈ 93.8 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	74.35 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	17.17 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
ErC50 algae	74.35 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)

maleic acid (110-16-7)	
NOEC (chronic)	10 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

potassium hydroxide (1310-58-3)	
LC50 - Fish [1]	80 mg/l (96 h; Gambusia affinis)

1H-imidazole (288-32-4)	
LC50 - Fish [1]	283.6 mg/l (48 h, Leuciscus idus, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	341.5 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	133 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	133 mg/l (DIN 38412: German standard methods for the examination of water, waste water and sludge, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)

formaldehyde (50-00-0)	
LC50 - Fish [1]	6.7 mg/l (96 h, Morone saxatilis, Static system, Salt water, Experimental value, Lethal)
EC50 - Crustacea [1]	5.8 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia pulex, Static system, Fresh water, Experimental value, Locomotor effect)
LC50 - Fish [2]	62 (62 – 109) mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 72h - Algae [1]	3.48 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	4.89 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	4.89 – 6.61 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)
NOEC chronic fish	≥ 48 mg/l Test organisms (species): Oryzias latipes Duration: '28 d'

methanol (67-56-1)	
LC50 - Fish [1]	15400 mg/l (EPA 660/3 - 75/009, 96 h, Lepomis macrochirus, Flow-through system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	18260 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 96 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, Locomotor effect)
EC50 96h - Algae [1]	22000 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)
NOEC (chronic)	208 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

12.2. Persistence and degradability

Aerospray® Hematology Pro Reagent A, Buffer (pH 7.2) Concentrate	
Persistence and degradability	Not established.

maleic acid (110-16-7)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.38 g O_2/g substance

maleic acid (110-16-7)	
Chemical oxygen demand (COD)	0.83 g O_2/g substance
ThOD	0.83 g O_2/g substance

potassium hydroxide (1310-58-3)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

1H-imidazole (288-32-4)	
Persistence and degradability	Readily biodegradable in the soil, Readily biodegradable in water.

formaldehyde (50-00-0)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.64 g O_2/g substance
Chemical oxygen demand (COD)	1.06 g O_2/g substance
ThOD	1.068 g O_2/g substance

methanol (67-56-1)	
Persistence and degradability	Readily biodegradable in the soil, Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.6 – 1.1 g O_2/g substance
Chemical oxygen demand (COD)	1.4 g O_2/g substance
ThOD	1.5 g O_2/g substance

12.3. Bioaccumulative potential

Aerospray® Hematology Pro Reagent A, Buffer (pH 7.2) Concentrate	
Bioaccumulative potential	Not established.

maleic acid (110-16-7)	
Partition coefficient n-octanol/water (Log Pow)	-1.3 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Bioaccumulative potential	Not bioaccumulative.

potassium hydroxide (1310-58-3)	
Bioaccumulative potential	Not bioaccumulative.

1H-imidazole (288-32-4)	
Partition coefficient n-octanol/water (Log Pow)	-0.02 (Weight of evidence approach, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)
Bioaccumulative potential	Not bioaccumulative.

formaldehyde (50-00-0)	
BCF - Fish [1]	< 1 (1 h, Flow-through system, Salt water, Weight of evidence)
Partition coefficient n-octanol/water (Log Pow)	0.35 (Calculated, KOWWIN, 25 °C)

formaldehyde (50-00-0)	
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

methanol (67-56-1)	
BCF - Fish [1]	1 – 4.5 (72 h, Cyprinus carpio, Static system, Fresh water, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	-0.77 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

maleic acid (110-16-7)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.63 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.

potassium hydroxide (1310-58-3)	
Surface tension	No data available in the literature
Ecology - soil	Low potential for adsorption in soil.

1H-imidazole (288-32-4)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.36 – 2.32 (log Koc, Calculated value)
Ecology - soil	Low potential for adsorption in soil.

formaldehyde (50-00-0)	
Surface tension	73 mN/m (20 °C, Aqueous solution, 7.5 g/l)
Ecology - soil	Not applicable (gas). Toxic to flora.

methanol (67-56-1)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	-0.89 – -0.21 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

Ozone : Not classified
Fluorinated greenhouse gases : No

Other information : Avoid release to the environment.

SECTION 13 Disposal considerations

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.

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Product/Packaging disposal recommendations	:	Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. Disposal must be done according to official regulations.
Additional information	:	Do not re-use empty containers.
Ecological waste information	:	Avoid release to the environment.

SECTION 14 Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

UN-No. (DOT)	:	UN3334
UN-No. (TDG)	:	UN3334
UN-No. (IMDG)	:	Not subject
UN-No. (IATA)	:	3334

14.2. UN Proper Shipping Name

Proper Shipping Name (DOT)	:	Aviation regulated liquid, n.o.s. (Formaldehyde solution)
Proper Shipping Name (TDG)	:	AVIATION REGULATED LIQUID, N.O.S. (FORMALDEHYDE SOLUTION)
Proper Shipping Name (IMDG)	:	Not subject
Proper Shipping Name (IATA)	:	Aviation regulated liquid, n.o.s. (Formaldehyde solution)

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 9

Hazard labels (DOT) : 9



TDG

Transport hazard class(es) (TDG) : 9

Hazard labels (TDG) : 9



IMDG

Transport hazard class(es) (IMDG) : Not subject

IATA

Transport hazard class(es) (IATA) : 9

Hazard labels (IATA) : 9



14.4. Packing group

Packing group (DOT)	:	Not applicable
Packing group (TDG)	:	Not applicable
Packing group (IMDG)	:	Not subject
Packing group (IATA)	:	III

14.5. Environmental hazards

Other information	:	No supplementary information available.

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT

UN-No. (DOT)	:	UN3334
DOT Special Provisions (49 CFR 172.102)	:	A35 - This includes any material which is not covered by any of the other classes but which has an anesthetic, narcotic, noxious or other similar properties such that, in the event of spillage or leakage on an aircraft, extreme annoyance or discomfort could be caused to crew members so as to prevent the correct performance of assigned duties. A189 - Except where the defining criteria of another class or division are met, concentrations of formaldehyde solution: a. With less than 25 percent but not less than 10 percent formaldehyde, must be described as UN3334, Aviation regulated liquid, n.o.s; and b. With less than 10 percent formaldehyde, are not subject to this subchapter.
DOT Packaging Exceptions (49 CFR 173.xxx)	:	155
DOT Packaging Non Bulk (49 CFR 173.xxx)	:	204
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	450 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	450 L
DOT Vessel Stowage Location	:	A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.

TDG

UN-No. (TDG)	:	UN3334
TDG Special Provisions	:	16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the danger or dangers posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3). (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name: (a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S; (b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S; (c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S; (d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or (e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S. (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment: (a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS,63 - These Regulations do not apply to these dangerous goods unless they are to be transported by aircraft.

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Explosive Limit and Limited Quantity Index	:	0
Excepted quantities (TDG)	:	E1
Emergency Response Guide (ERG) Number	:	171

IMDG

Not subject

IATA

Special provision (IATA)	:	A27
PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y964
PCA limited quantity max net quantity (IATA)	:	30kgG
PCA packing instructions (IATA)	:	964
PCA max net quantity (IATA)	:	450L
CAO packing instructions (IATA)	:	964
CAO max net quantity (IATA)	:	450L
ERG code (IATA)	:	9A

SECTION 15 Regulatory information

15.1. Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.		
formaldehyde	CAS-No. 50-00-0	< 10%
methanol	CAS-No. 67-56-1	< 5%

maleic acid (110-16-7)	
CERCLA RQ	5000 lb

potassium hydroxide (1310-58-3)	
CERCLA RQ	1000 lb

formaldehyde (50-00-0)	
Listed on EPA Hazardous Air Pollutant (HAPS) Listed on EPA HAPs Chronic Dose Response Assessment List - Carcinogens Listed on EPA HAPs Acute Dose Response Assessment List – Exposure limits	
CERCLA RQ	100 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	100 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500 lb

methanol (67-56-1)	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	5000 lb

15.2. International regulations

CANADA

maleic acid (110-16-7)

Listed on the Canadian DSL (Domestic Substances List)

potassium hydroxide (1310-58-3)

Listed on the Canadian DSL (Domestic Substances List)

1H-imidazole (288-32-4)

Listed on the Canadian DSL (Domestic Substances List)

formaldehyde (50-00-0)

Listed on the Canadian DSL (Domestic Substances List)

methanol (67-56-1)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

potassium hydroxide (1310-58-3)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

formaldehyde (50-00-0)

Listed on IARC (International Agency for Research on Cancer)
Listed as carcinogen on NTP (National Toxicology Program)
Listed on EPA HAPs Chronic Dose Response Assessment List - Carcinogens
Listed on EPA HAPs Acute Dose Response Assessment List – Exposure limits
Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. State regulations

WARNING: This product can expose you to chemicals including Formaldehyde (gas), which is known to the State of California to cause cancer, and methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Component	State or local regulations
maleic acid(110-16-7)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

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Component	State or local regulations
potassium hydroxide(1310-58-3)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
formaldehyde(50-00-0)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
methanol(67-56-1)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16 Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Other information : None.

Full text of hazard classes and H-statements	
H220	Extremely flammable gas
H225	Highly flammable liquid and vapor
H227	Combustible liquid
H290	May be corrosive to metals
H301	Toxic if swallowed
H302	Harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H330	Fatal if inhaled
H331	Toxic if inhaled
H335	May cause respiratory irritation
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H360	May damage fertility or the unborn child
H370	Causes damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Reason for change: updating to latest format and company header logo.

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