

SAFETY DATA SHEET

P200 Reagents, Part Number 5067-5372

Section 1. Identification

1.1 Product identifier

Product name	: P200 Reagents, Part Number 5067-5372	
Part no. (chemical kit)	: 5067-5372	
Part no.	:  P200 Ladder	5190-5941
	P200 Reducing Sample Buffer	5190-5942
	P200 Non-Reducing Sample Buffer	5190-5943
	P200 Markers	5190-5944
	P200 pH Buffer	5190-5945
	P200 5X Labeling Dye	5190-5946
	P200 Labeling Buffer	5190-5947

Validation date : 3/26/2018

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

Material uses	: Analytical chemistry. Research and Development	
	 P200 Ladder	0.04 ml
	P200 Reducing Sample Buffer	0.55 ml
	P200 Non-Reducing Sample Buffer	0.55 ml
	P200 Markers	0.27 ml
	P200 pH Buffer	1 ml
	P200 5X Labeling Dye	0.07 ml
	P200 Labeling Buffer	0.35 ml

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer : Agilent Technologies, Inc.
5301 Stevens Creek Blvd
Santa Clara, CA 95051, USA
800-227-9770

1.4 Emergency telephone number

In case of emergency : CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture

OSHA/HCS status	:  P200 Ladder	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
	P200 Reducing Sample Buffer	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
	P200 Non-Reducing Sample Buffer	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
	P200 Markers	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
	P200 pH Buffer	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
	P200 5X Labeling Dye	This material is considered hazardous by the OSHA

Section 2. Hazards identification

P200 Labeling Buffer

Hazard Communication Standard (29 CFR 1910.1200). While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture

P200 Ladder

H319 EYE IRRITATION - Category 2A

P200 Reducing Sample Buffer

H320 EYE IRRITATION - Category 2B

P200 Non-Reducing Sample Buffer

H320 EYE IRRITATION - Category 2B

P200 Markers

H320 EYE IRRITATION - Category 2B

P200 5X Labeling Dye

H319 EYE IRRITATION - Category 2A
 H350 CARCINOGENICITY - Category 1B
 H360 TOXIC TO REPRODUCTION (Unborn child) - Category 1B
 H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (liver) - Category 2

Ingredients of unknown toxicity

: P200 Ladder Percentage of the mixture consisting of ingredient (s) of unknown dermal toxicity: 1 - 10%
 Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 30 - 60%
 P200 Reducing Sample Buffer Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 30 - 60%
 P200 Non-Reducing Sample Buffer Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 30 - 60%
 P200 Markers Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: > 60%
 P200 Labeling Buffer Percentage of the mixture consisting of ingredient (s) of unknown dermal toxicity: 1 - 10%
 Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 1 - 10%
 Percentage of the mixture consisting of ingredient (s) of unknown oral toxicity: 1 - 10%

2.2 GHS label elements

Hazard pictograms

: P200 Ladder



P200 5X Labeling Dye



Signal word

:

Section 2. Hazards identification

	P200 Ladder	Warning
	P200 Reducing Sample Buffer	Warning
	P200 Non-Reducing Sample Buffer	Warning
	P200 Markers	Warning
	P200 pH Buffer	No signal word.
	P200 5X Labeling Dye	Danger
	P200 Labeling Buffer	No signal word.
Hazard statements	: P200 Ladder	H319 - Causes serious eye irritation.
	P200 Reducing Sample Buffer	H320 - Causes eye irritation.
	P200 Non-Reducing Sample Buffer	H320 - Causes eye irritation.
	P200 Markers	H320 - Causes eye irritation.
	P200 pH Buffer	No known significant effects or critical hazards.
	P200 5X Labeling Dye	H319 - Causes serious eye irritation. H350 - May cause cancer. H360 - May damage the unborn child. H373 - May cause damage to organs through prolonged or repeated exposure. (liver)
	P200 Labeling Buffer	No known significant effects or critical hazards.
Precautionary statements		
Prevention	: P200 Ladder	P280 - Wear eye or face protection. P264 - Wash hands thoroughly after handling.
	P200 Reducing Sample Buffer	P264 - Wash hands thoroughly after handling.
	P200 Non-Reducing Sample Buffer	P264 - Wash hands thoroughly after handling.
	P200 Markers	P264 - Wash hands thoroughly after handling.
	P200 pH Buffer	Not applicable.
	P200 5X Labeling Dye	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing. P260 - Do not breathe vapor. P264 - Wash hands thoroughly after handling.
	P200 Labeling Buffer	Not applicable.
Response	: P200 Ladder	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
	P200 Reducing Sample Buffer	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
	P200 Non-Reducing Sample Buffer	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
	P200 Markers	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
	P200 pH Buffer	Not applicable.

Section 2. Hazards identification

	P200 5X Labeling Dye	P314 - Get medical attention if you feel unwell. P308 + P313 - IF exposed or concerned: Get medical attention. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
Storage	P200 Labeling Buffer	Not applicable.
	: P200 Ladder	Not applicable.
	P200 Reducing Sample Buffer	Not applicable.
	P200 Non-Reducing Sample Buffer	Not applicable.
	P200 Markers	Not applicable.
	P200 pH Buffer	Not applicable.
	P200 5X Labeling Dye	P405 - Store locked up.
Disposal	P200 Labeling Buffer	Not applicable.
	: P200 Ladder	Not applicable.
	P200 Reducing Sample Buffer	Not applicable.
	P200 Non-Reducing Sample Buffer	Not applicable.
	P200 Markers	Not applicable.
	P200 pH Buffer	Not applicable.
	P200 5X Labeling Dye	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	P200 Labeling Buffer	Not applicable.
	: P200 Ladder	None known.
	P200 Reducing Sample Buffer	None known.
	P200 Non-Reducing Sample Buffer	None known.
	P200 Markers	None known.
	P200 pH Buffer	None known.
	P200 5X Labeling Dye	None known.
2.3 Other hazards	P200 Labeling Buffer	None known.
	Hazards not otherwise classified	
	: P200 Ladder	None known.
	P200 Reducing Sample Buffer	None known.
	P200 Non-Reducing Sample Buffer	None known.
	P200 Markers	None known.
	P200 pH Buffer	None known.
P200 5X Labeling Dye	None known.	
	P200 Labeling Buffer	None known.

Section 3. Composition/information on ingredients

Substance/mixture	: P200 Ladder	Mixture
	P200 Reducing Sample Buffer	Mixture
	P200 Non-Reducing Sample Buffer	Mixture
	P200 Markers	Mixture
	P200 pH Buffer	Mixture
	P200 5X Labeling Dye	Mixture
	P200 Labeling Buffer	Mixture

Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
P200 Ladder Glycerol (R*,R*)-1,4-Dimercaptobutane-2,3-diol	≥25 - ≤50 ≤3	56-81-5 3483-12-3
P200 Reducing Sample Buffer Glycerol	≥10 - ≤25	56-81-5
P200 Non-Reducing Sample Buffer Glycerol	≥10 - ≤25	56-81-5
P200 Markers Glycerol	≥25 - ≤50	56-81-5
P200 5X Labeling Dye N,N-Dimethylformamide	≥10 - <20	68-12-2
P200 Labeling Buffer 2-(Cyclohexylamino)ethanesulphonic acid	≤3	103-47-9

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

4.1 Description of necessary first aid measures

Eye contact	: P200 Ladder	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	P200 Reducing Sample Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
	P200 Non-Reducing Sample Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
	P200 Markers	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
	P200 pH Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	P200 5X Labeling Dye	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

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	P200 Labeling Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	: P200 Ladder	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	P200 Reducing Sample Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	P200 Non-Reducing Sample Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	P200 Markers	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	P200 pH Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	P200 5X Labeling Dye	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or

Section 4. First aid measures

oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact

: P200 Ladder

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

P200 Reducing Sample Buffer

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

P200 Non-Reducing Sample Buffer

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

P200 Markers

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

P200 pH Buffer

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

P200 5X Labeling Dye

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

P200 Labeling Buffer

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion

: P200 Ladder

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless

Section 4. First aid measures

	directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
P200 Reducing Sample Buffer	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
P200 Non-Reducing Sample Buffer	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
P200 Markers	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
P200 pH Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable

Section 4. First aid measures

P200 5X Labeling Dye

for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

P200 Labeling Buffer

Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: P200 Ladder	Causes serious eye irritation.
	P200 Reducing Sample Buffer	Causes eye irritation.
	P200 Non-Reducing Sample Buffer	Causes eye irritation.
	P200 Markers	Causes eye irritation.
	P200 pH Buffer	No known significant effects or critical hazards.
	P200 5X Labeling Dye	Causes serious eye irritation.
Inhalation	: P200 Labeling Buffer	No known significant effects or critical hazards.
	P200 Ladder	No known significant effects or critical hazards.
	P200 Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Non-Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Markers	No known significant effects or critical hazards.
	P200 pH Buffer	No known significant effects or critical hazards.
Skin contact	: P200 5X Labeling Dye	No known significant effects or critical hazards.
	P200 Ladder	No known significant effects or critical hazards.
	P200 Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Non-Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Markers	No known significant effects or critical hazards.
	P200 pH Buffer	No known significant effects or critical hazards.
	: P200 5X Labeling Dye	No known significant effects or critical hazards.
	P200 Labeling Buffer	No known significant effects or critical hazards.

Section 4. First aid measures

Ingestion	:	P200 Ladder	No known significant effects or critical hazards.
		P200 Reducing Sample Buffer	No known significant effects or critical hazards.
		P200 Non-Reducing Sample Buffer	No known significant effects or critical hazards.
		P200 Markers	No known significant effects or critical hazards.
		P200 pH Buffer	No known significant effects or critical hazards.
		P200 5X Labeling Dye	No known significant effects or critical hazards.
		P200 Labeling Buffer	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	:	P200 Ladder	Adverse symptoms may include the following: pain or irritation watering redness	
		P200 Reducing Sample Buffer	Adverse symptoms may include the following: irritation watering redness	
		P200 Non-Reducing Sample Buffer	Adverse symptoms may include the following: irritation watering redness	
		P200 Markers	Adverse symptoms may include the following: irritation watering redness	
		P200 pH Buffer	No specific data.	
		P200 5X Labeling Dye	Adverse symptoms may include the following: pain or irritation watering redness	
		P200 Labeling Buffer	No specific data.	
	Inhalation	:	P200 Ladder	No specific data.
			P200 Reducing Sample Buffer	No specific data.
			P200 Non-Reducing Sample Buffer	No specific data.
		P200 Markers	No specific data.	
		P200 pH Buffer	No specific data.	
		P200 5X Labeling Dye	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations	
		P200 Labeling Buffer	No specific data.	
Skin contact	:	P200 Ladder	No specific data.	
		P200 Reducing Sample Buffer	No specific data.	
		P200 Non-Reducing Sample Buffer	No specific data.	
		P200 Markers	No specific data.	
		P200 pH Buffer	No specific data.	
		P200 5X Labeling Dye	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations	
		P200 Labeling Buffer	No specific data.	
Ingestion	:	P200 Ladder	No specific data.	
		P200 Reducing Sample Buffer	No specific data.	
		P200 Non-Reducing Sample Buffer	No specific data.	
		P200 Markers	No specific data.	
		P200 pH Buffer	No specific data.	
		P200 5X Labeling Dye	Adverse symptoms may include the following: reduced fetal weight	

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P200 Labeling Buffer
 increase in fetal deaths
 skeletal malformations
 No specific data.

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

Notes to physician	: P200 Ladder	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	P200 Reducing Sample Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	P200 Non-Reducing Sample Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	P200 Markers	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	P200 pH Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	P200 5X Labeling Dye	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	P200 Labeling Buffer	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments	: P200 Ladder	No specific treatment.
	P200 Reducing Sample Buffer	No specific treatment.
	P200 Non-Reducing Sample Buffer	No specific treatment.
	P200 Markers	No specific treatment.
	P200 pH Buffer	No specific treatment.
	P200 5X Labeling Dye	No specific treatment.
	P200 Labeling Buffer	No specific treatment.
Protection of first-aiders	: P200 Ladder	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	P200 Reducing Sample Buffer	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	P200 Non-Reducing Sample Buffer	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	P200 Markers	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	P200 pH Buffer	No action shall be taken involving any personal risk or without suitable training.
	P200 5X Labeling Dye	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing

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P200 Labeling Buffer

apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

: P200 Ladder	Use an extinguishing agent suitable for the surrounding fire.
P200 Reducing Sample Buffer	Use an extinguishing agent suitable for the surrounding fire.
P200 Non-Reducing Sample Buffer	Use an extinguishing agent suitable for the surrounding fire.
P200 Markers	Use an extinguishing agent suitable for the surrounding fire.
P200 pH Buffer	Use an extinguishing agent suitable for the surrounding fire.
P200 5X Labeling Dye	Use an extinguishing agent suitable for the surrounding fire.
P200 Labeling Buffer	Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media

: P200 Ladder	None known.
P200 Reducing Sample Buffer	None known.
P200 Non-Reducing Sample Buffer	None known.
P200 Markers	None known.
P200 pH Buffer	None known.
P200 5X Labeling Dye	None known.
P200 Labeling Buffer	None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical

: P200 Ladder	In a fire or if heated, a pressure increase will occur and the container may burst.
P200 Reducing Sample Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
P200 Non-Reducing Sample Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
P200 Markers	In a fire or if heated, a pressure increase will occur and the container may burst.
P200 pH Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
P200 5X Labeling Dye	In a fire or if heated, a pressure increase will occur and the container may burst.
P200 Labeling Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products

: P200 Ladder	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
P200 Reducing Sample Buffer	Decomposition products may include the following materials: carbon dioxide

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P200 Non-Reducing Sample Buffer	carbon monoxide Decomposition products may include the following materials: carbon dioxide carbon monoxide
P200 Markers	Decomposition products may include the following materials: carbon dioxide carbon monoxide
P200 pH Buffer	No specific data.
P200 5X Labeling Dye	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides
P200 Labeling Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters

: P200 Ladder	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
P200 Reducing Sample Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
P200 Non-Reducing Sample Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
P200 Markers	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
P200 pH Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
P200 5X Labeling Dye	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
P200 Labeling Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
: P200 Ladder	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
P200 Reducing Sample Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive

Section 5. Fire-fighting measures

P200 Non-Reducing Sample Buffer	pressure mode. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
P200 Markers	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
P200 pH Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
P200 5X Labeling Dye	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
P200 Labeling Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: P200 Ladder

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

P200 Reducing Sample Buffer

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

P200 Non-Reducing Sample Buffer

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

P200 Markers

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when

Section 6. Accidental release measures

	ventilation is inadequate. Put on appropriate personal protective equipment.
P200 pH Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
P200 5X Labeling Dye	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
P200 Labeling Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
For emergency responders : P200 Ladder	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
P200 Reducing Sample Buffer	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
P200 Non-Reducing Sample Buffer	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
P200 Markers	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
P200 pH Buffer	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
P200 5X Labeling Dye	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
P200 Labeling Buffer	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Section 6. Accidental release measures

6.2 Environmental precautions

P200 Ladder	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
P200 Reducing Sample Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
P200 Non-Reducing Sample Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
P200 Markers	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
P200 pH Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
P200 5X Labeling Dye	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
P200 Labeling Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up

P200 Ladder	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
P200 Reducing Sample Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
P200 Non-Reducing Sample Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
P200 Markers	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an

Section 6. Accidental release measures

P200 pH Buffer	inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
P200 5X Labeling Dye	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
P200 Labeling Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures	: P200 Ladder	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	P200 Reducing Sample Buffer	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	P200 Non-Reducing Sample Buffer	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	P200 Markers	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	P200 pH Buffer	Put on appropriate personal protective equipment (see Section 8).

Section 7. Handling and storage

	P200 5X Labeling Dye	Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	P200 Labeling Buffer	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	: P200 Ladder	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	P200 Reducing Sample Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	P200 Non-Reducing Sample Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	P200 Markers	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	P200 pH Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	P200 5X Labeling Dye	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	P200 Labeling Buffer	Eating, drinking and smoking should be prohibited

Section 7. Handling and storage

7.2 Conditions for safe storage, including any incompatibilities

: P200 Ladder

in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Store between the following temperatures: -30 to -20°C (-22 to -4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

P200 Reducing Sample Buffer

Store between the following temperatures: -30 to -20°C (-22 to -4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

P200 Non-Reducing Sample Buffer

Store between the following temperatures: -30 to -20°C (-22 to -4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

P200 Markers

Store between the following temperatures: -30 to -20°C (-22 to -4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for

Section 7. Handling and storage

P200 pH Buffer	incompatible materials before handling or use. Store between the following temperatures: -30 to -20°C (-22 to -4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
P200 5X Labeling Dye	Store between the following temperatures: -30 to -20°C (-22 to -4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
P200 Labeling Buffer	Store between the following temperatures: -30 to -20°C (-22 to -4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations

: P200 Ladder	Industrial applications, Professional applications.
P200 Reducing Sample Buffer	Industrial applications, Professional applications.
P200 Non-Reducing Sample Buffer	Industrial applications, Professional applications.
P200 Markers	Industrial applications, Professional applications.
P200 pH Buffer	Industrial applications, Professional applications.
P200 5X Labeling Dye	Industrial applications, Professional applications.
P200 Labeling Buffer	Industrial applications, Professional applications.

Industrial sector specific solutions

: P200 Ladder	Not applicable.
P200 Reducing Sample Buffer	Not applicable.
P200 Non-Reducing Sample Buffer	Not applicable.
P200 Markers	Not applicable.
P200 pH Buffer	Not applicable.
P200 5X Labeling Dye	Not applicable.
P200 Labeling Buffer	Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
<p>P200 Ladder Glycerol</p> <p>(R*,R*)-1,4-Dimercaptobutane-2,3-diol</p>	<p>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 10 mg/m³ 8 hours. Form: Total dust</p> <p>OSHA PEL (United States, 6/2016). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust</p> <p>None.</p>
<p>P200 Reducing Sample Buffer Glycerol</p>	<p>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 10 mg/m³ 8 hours. Form: Total dust</p> <p>OSHA PEL (United States, 6/2016). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust</p>
<p>P200 Non-Reducing Sample Buffer Glycerol</p>	<p>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 10 mg/m³ 8 hours. Form: Total dust</p> <p>OSHA PEL (United States, 6/2016). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust</p>
<p>P200 Markers Glycerol</p>	<p>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 10 mg/m³ 8 hours. Form: Total dust</p> <p>OSHA PEL (United States, 6/2016). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust</p>
<p>P200 5X Labeling Dye N,N-Dimethylformamide</p>	<p>ACGIH TLV (United States, 3/2017). Absorbed through skin. TWA: 10 ppm 8 hours. TWA: 30 mg/m³ 8 hours.</p> <p>OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. TWA: 10 ppm 8 hours. TWA: 30 mg/m³ 8 hours.</p> <p>NIOSH REL (United States, 10/2016). Absorbed through skin. TWA: 10 ppm 10 hours.</p>

Section 8. Exposure controls/personal protection

<p>P200 Labeling Buffer 2-(Cyclohexylamino)ethanesulphonic acid</p>	<p>TWA: 30 mg/m³ 10 hours. OSHA PEL (United States, 6/2016). Absorbed through skin. TWA: 10 ppm 8 hours. TWA: 30 mg/m³ 8 hours.</p> <p>None.</p>
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8.2 Exposure controls

Appropriate engineering controls

- : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls

- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

- : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection

- : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

- : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

- : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

- : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	:	▶ P200 Ladder	Liquid.
		P200 Reducing Sample Buffer	Liquid.
		P200 Non-Reducing Sample Buffer	Liquid.
		P200 Markers	Liquid.
		P200 pH Buffer	Liquid.
		P200 5X Labeling Dye	Liquid.
		P200 Labeling Buffer	Liquid.
Color	:	▶ P200 Ladder	Not available.
		P200 Reducing Sample Buffer	Not available.
		P200 Non-Reducing Sample Buffer	Not available.
		P200 Markers	Not available.
		P200 pH Buffer	Not available.
		P200 5X Labeling Dye	Not available.
		P200 Labeling Buffer	Not available.
Odor	:	▶ P200 Ladder	Not available.
		P200 Reducing Sample Buffer	Not available.
		P200 Non-Reducing Sample Buffer	Not available.
		P200 Markers	Not available.
		P200 pH Buffer	Not available.
		P200 5X Labeling Dye	Not available.
		P200 Labeling Buffer	Not available.
Odor threshold	:	▶ P200 Ladder	Not available.
		P200 Reducing Sample Buffer	Not available.
		P200 Non-Reducing Sample Buffer	Not available.
		P200 Markers	Not available.
		P200 pH Buffer	Not available.
		P200 5X Labeling Dye	Not available.
		P200 Labeling Buffer	Not available.
pH	:	▶ P200 Ladder	Not available.
		P200 Reducing Sample Buffer	Not available.
		P200 Non-Reducing Sample Buffer	Not available.
		P200 Markers	Not available.
		P200 pH Buffer	Not available.
		P200 5X Labeling Dye	Not available.
		P200 Labeling Buffer	Not available.
Melting point	:	▶ P200 Ladder	Not available.
		P200 Reducing Sample Buffer	Not available.
		P200 Non-Reducing Sample Buffer	Not available.
		P200 Markers	Not available.
		P200 pH Buffer	0°C (32°F)
		P200 5X Labeling Dye	Not available.
		P200 Labeling Buffer	0°C (32°F)
Boiling point	:	▶ P200 Ladder	Not available.
		P200 Reducing Sample Buffer	Not available.
		P200 Non-Reducing Sample Buffer	Not available.
		P200 Markers	Not available.
		P200 pH Buffer	100°C (212°F)
		P200 5X Labeling Dye	Not available.
		P200 Labeling Buffer	100°C (212°F)

Section 9. Physical and chemical properties

Flash point	: P200 Ladder	Not available.
	P200 Reducing Sample Buffer	Not available.
	P200 Non-Reducing Sample Buffer	Not available.
	P200 Markers	Not available.
	P200 pH Buffer	Not available.
	P200 5X Labeling Dye	Not available.
	P200 Labeling Buffer	Not available.
Evaporation rate	: P200 Ladder	Not available.
	P200 Reducing Sample Buffer	Not available.
	P200 Non-Reducing Sample Buffer	Not available.
	P200 Markers	Not available.
	P200 pH Buffer	Not available.
	P200 5X Labeling Dye	Not available.
	P200 Labeling Buffer	Not available.
Flammability (solid, gas)	: P200 Ladder	Not applicable.
	P200 Reducing Sample Buffer	Not applicable.
	P200 Non-Reducing Sample Buffer	Not applicable.
	P200 Markers	Not applicable.
	P200 pH Buffer	Not applicable.
	P200 5X Labeling Dye	Not applicable.
	P200 Labeling Buffer	Not applicable.
Lower and upper explosive (flammable) limits	: P200 Ladder	Not available.
	P200 Reducing Sample Buffer	Not available.
	P200 Non-Reducing Sample Buffer	Not available.
	P200 Markers	Not available.
	P200 pH Buffer	Not available.
	P200 5X Labeling Dye	Not available.
	P200 Labeling Buffer	Not available.
Vapor pressure	: P200 Ladder	Not available.
	P200 Reducing Sample Buffer	Not available.
	P200 Non-Reducing Sample Buffer	Not available.
	P200 Markers	Not available.
	P200 pH Buffer	Not available.
	P200 5X Labeling Dye	Not available.
	P200 Labeling Buffer	Not available.
Vapor density	: P200 Ladder	Not available.
	P200 Reducing Sample Buffer	Not available.
	P200 Non-Reducing Sample Buffer	Not available.
	P200 Markers	Not available.
	P200 pH Buffer	Not available.
	P200 5X Labeling Dye	Not available.
	P200 Labeling Buffer	Not available.
Relative density	: P200 Ladder	Not available.
	P200 Reducing Sample Buffer	Not available.
	P200 Non-Reducing Sample Buffer	Not available.
	P200 Markers	Not available.
	P200 pH Buffer	Not available.
	P200 5X Labeling Dye	Not available.
	P200 Labeling Buffer	Not available.
Solubility	: P200 Ladder	Partially soluble in the following materials: cold water and hot water.
	P200 Reducing Sample Buffer	Partially soluble in the following materials: cold water and hot water.
	P200 Non-Reducing Sample Buffer	Partially soluble in the following materials: cold water and hot water.
	P200 Markers	Partially soluble in the following materials: cold water and hot water.

Section 9. Physical and chemical properties

	P200 pH Buffer	Easily soluble in the following materials: cold water and hot water.
	P200 5X Labeling Dye	Soluble in the following materials: cold water and hot water.
	P200 Labeling Buffer	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: P200 Ladder	Not available.
	P200 Reducing Sample Buffer	Not available.
	P200 Non-Reducing Sample Buffer	Not available.
	P200 Markers	Not available.
	P200 pH Buffer	Not available.
	P200 5X Labeling Dye	Not available.
	P200 Labeling Buffer	Not available.
Auto-ignition temperature	: P200 Ladder	Not available.
	P200 Reducing Sample Buffer	Not available.
	P200 Non-Reducing Sample Buffer	Not available.
	P200 Markers	Not available.
	P200 pH Buffer	Not available.
	P200 5X Labeling Dye	Not available.
	P200 Labeling Buffer	Not available.
Decomposition temperature	: P200 Ladder	Not available.
	P200 Reducing Sample Buffer	Not available.
	P200 Non-Reducing Sample Buffer	Not available.
	P200 Markers	Not available.
	P200 pH Buffer	Not available.
	P200 5X Labeling Dye	Not available.
	P200 Labeling Buffer	Not available.
Viscosity	: P200 Ladder	Not available.
	P200 Reducing Sample Buffer	Not available.
	P200 Non-Reducing Sample Buffer	Not available.
	P200 Markers	Not available.
	P200 pH Buffer	Not available.
	P200 5X Labeling Dye	Not available.
	P200 Labeling Buffer	Not available.

Section 10. Stability and reactivity

10.1 Reactivity	: P200 Ladder	No specific test data related to reactivity available for this product or its ingredients.
	P200 Reducing Sample Buffer	No specific test data related to reactivity available for this product or its ingredients.
	P200 Non-Reducing Sample Buffer	No specific test data related to reactivity available for this product or its ingredients.
	P200 Markers	No specific test data related to reactivity available for this product or its ingredients.
	P200 pH Buffer	No specific test data related to reactivity available for this product or its ingredients.
	P200 5X Labeling Dye	No specific test data related to reactivity available for this product or its ingredients.
	P200 Labeling Buffer	No specific test data related to reactivity available for this product or its ingredients.

Section 10. Stability and reactivity

10.2 Chemical stability	: P200 Ladder P200 Reducing Sample Buffer P200 Non-Reducing Sample Buffer P200 Markers P200 pH Buffer P200 5X Labeling Dye P200 Labeling Buffer	The product is stable. The product is stable.
10.3 Possibility of hazardous reactions	: P200 Ladder P200 Reducing Sample Buffer P200 Non-Reducing Sample Buffer P200 Markers P200 pH Buffer P200 5X Labeling Dye P200 Labeling Buffer	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: P200 Ladder P200 Reducing Sample Buffer P200 Non-Reducing Sample Buffer P200 Markers P200 pH Buffer P200 5X Labeling Dye P200 Labeling Buffer	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
10.5 Incompatible materials	: P200 Ladder P200 Reducing Sample Buffer P200 Non-Reducing Sample Buffer P200 Markers P200 pH Buffer P200 5X Labeling Dye P200 Labeling Buffer	May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials.
10.6 Hazardous decomposition products	: P200 Ladder P200 Reducing Sample Buffer P200 Non-Reducing Sample Buffer P200 Markers	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 10. Stability and reactivity

P200 pH Buffer	produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.
P200 5X Labeling Dye	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
P200 Labeling Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
P200 Ladder Glycerol	LD50 Oral	Rat	12600 mg/kg	-
P200 Reducing Sample Buffer Glycerol	LD50 Oral	Rat	12600 mg/kg	-
P200 Non-Reducing Sample Buffer Glycerol	LD50 Oral	Rat	12600 mg/kg	-
P200 Markers Glycerol	LD50 Oral	Rat	12600 mg/kg	-
P200 5X Labeling Dye N,N-Dimethylformamide	LC50 Inhalation Vapor LC50 Inhalation Vapor LD50 Dermal LD50 Oral	Rat Rat Rabbit Rat	3421 ppm 1948 ppm 4720 mg/kg 2000 mg/kg	1 hours 4 hours - -

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
P200 Ladder Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
P200 Reducing Sample Buffer Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
P200 Non-Reducing Sample Buffer Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

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P200 Markers Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
P200 5X Labeling Dye N,N-Dimethylformamide	Eyes - Severe irritant	Rabbit	-	100 Percent	-

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
P200 5X Labeling Dye N,N-Dimethylformamide	-	2A	-

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
P200 Ladder (R*,R*)-1,4-Dimercaptobutane-2,3-diol	Category 3	Not applicable.	Respiratory tract irritation
P200 5X Labeling Dye N,N-Dimethylformamide	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
P200 5X Labeling Dye N,N-Dimethylformamide	Category 2	Not determined	liver

Aspiration hazard

Not available.

Information on the likely routes of exposure	: P200 Ladder	Routes of entry anticipated: Oral, Dermal, Inhalation.
	P200 Reducing Sample Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
	P200 Non-Reducing Sample Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
	P200 Markers	Routes of entry anticipated: Oral, Dermal, Inhalation.
	P200 pH Buffer	Not available.

Section 11. Toxicological information

	P200 5X Labeling Dye	Routes of entry anticipated: Oral, Dermal, Inhalation.
	P200 Labeling Buffer	Not available.
Potential acute health effects		
Eye contact	: P200 Ladder	Causes serious eye irritation.
	P200 Reducing Sample Buffer	Causes eye irritation.
	P200 Non-Reducing Sample Buffer	Causes eye irritation.
	P200 Markers	Causes eye irritation.
	P200 pH Buffer	No known significant effects or critical hazards.
	P200 5X Labeling Dye	Causes serious eye irritation.
	P200 Labeling Buffer	No known significant effects or critical hazards.
Inhalation	: P200 Ladder	No known significant effects or critical hazards.
	P200 Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Non-Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Markers	No known significant effects or critical hazards.
	P200 pH Buffer	No known significant effects or critical hazards.
	P200 5X Labeling Dye	No known significant effects or critical hazards.
	P200 Labeling Buffer	No known significant effects or critical hazards.
Skin contact	: P200 Ladder	No known significant effects or critical hazards.
	P200 Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Non-Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Markers	No known significant effects or critical hazards.
	P200 pH Buffer	No known significant effects or critical hazards.
	P200 5X Labeling Dye	No known significant effects or critical hazards.
	P200 Labeling Buffer	No known significant effects or critical hazards.
Ingestion	: P200 Ladder	No known significant effects or critical hazards.
	P200 Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Non-Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Markers	No known significant effects or critical hazards.
	P200 pH Buffer	No known significant effects or critical hazards.
	P200 5X Labeling Dye	No known significant effects or critical hazards.
	P200 Labeling Buffer	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: P200 Ladder	Adverse symptoms may include the following: pain or irritation watering redness
	P200 Reducing Sample Buffer	Adverse symptoms may include the following: irritation watering redness
	P200 Non-Reducing Sample Buffer	Adverse symptoms may include the following: irritation watering redness
	P200 Markers	Adverse symptoms may include the following: irritation watering redness
	P200 pH Buffer	No specific data.
	P200 5X Labeling Dye	Adverse symptoms may include the following: pain or irritation watering redness
	P200 Labeling Buffer	No specific data.

Section 11. Toxicological information

Inhalation	:	☒ P200 Ladder	No specific data.
		P200 Reducing Sample Buffer	No specific data.
		P200 Non-Reducing Sample Buffer	No specific data.
		P200 Markers	No specific data.
		P200 pH Buffer	No specific data.
		P200 5X Labeling Dye	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
		P200 Labeling Buffer	No specific data.
Skin contact	:	☒ P200 Ladder	No specific data.
		P200 Reducing Sample Buffer	No specific data.
		P200 Non-Reducing Sample Buffer	No specific data.
		P200 Markers	No specific data.
		P200 pH Buffer	No specific data.
		P200 5X Labeling Dye	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
		P200 Labeling Buffer	No specific data.
Ingestion	:	☒ P200 Ladder	No specific data.
		P200 Reducing Sample Buffer	No specific data.
		P200 Non-Reducing Sample Buffer	No specific data.
		P200 Markers	No specific data.
		P200 pH Buffer	No specific data.
		P200 5X Labeling Dye	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
		P200 Labeling Buffer	No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	:	☒ P200 Ladder	No known significant effects or critical hazards.
		P200 Reducing Sample Buffer	No known significant effects or critical hazards.
		P200 Non-Reducing Sample Buffer	No known significant effects or critical hazards.
		P200 Markers	No known significant effects or critical hazards.
		P200 pH Buffer	No known significant effects or critical hazards.
		P200 5X Labeling Dye	May cause damage to organs through prolonged or repeated exposure.
		P200 Labeling Buffer	No known significant effects or critical hazards.

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Carcinogenicity	: P200 Ladder	No known significant effects or critical hazards.
	P200 Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Non-Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Markers	No known significant effects or critical hazards.
	P200 pH Buffer	No known significant effects or critical hazards.
	P200 5X Labeling Dye	May cause cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity	: P200 Ladder	No known significant effects or critical hazards.
	P200 Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Non-Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Markers	No known significant effects or critical hazards.
	P200 pH Buffer	No known significant effects or critical hazards.
	P200 5X Labeling Dye	No known significant effects or critical hazards.
Teratogenicity	: P200 Ladder	No known significant effects or critical hazards.
	P200 Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Non-Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Markers	No known significant effects or critical hazards.
	P200 pH Buffer	No known significant effects or critical hazards.
	P200 5X Labeling Dye	May damage the unborn child.
Developmental effects	: P200 Ladder	No known significant effects or critical hazards.
	P200 Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Non-Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Markers	No known significant effects or critical hazards.
	P200 pH Buffer	No known significant effects or critical hazards.
	P200 5X Labeling Dye	No known significant effects or critical hazards.
Fertility effects	: P200 Ladder	No known significant effects or critical hazards.
	P200 Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Non-Reducing Sample Buffer	No known significant effects or critical hazards.
	P200 Markers	No known significant effects or critical hazards.
	P200 pH Buffer	No known significant effects or critical hazards.
	P200 5X Labeling Dye	No known significant effects or critical hazards.
P200 Labeling Buffer	No known significant effects or critical hazards.	

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
P200 Ladder Oral	49505.1 mg/kg
P200 5X Labeling Dye Oral	10666.7 mg/kg
Dermal	5866.7 mg/kg
Inhalation (vapors)	58.67 mg/l

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
P200 Ladder Glycerol (R*,R*)-1, 4-Dimercaptobutane-2,3-diol	Acute LC50 54000 mg/l Fresh water Acute LC50 27000 µg/l Fresh water	Fish - Oncorhynchus mykiss Daphnia - Daphnia magna	96 hours 48 hours
P200 Reducing Sample Buffer Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
P200 Non-Reducing Sample Buffer Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
P200 Markers Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
P200 5X Labeling Dye N,N-Dimethylformamide	Acute EC50 4500000 µg/l Fresh water Acute EC50 7100000 µg/l Fresh water Acute LC50 >100000 µg/l Marine water Chronic NOEC 1500 mg/l Fresh water Chronic NOEC 1000 mg/l Fresh water	Daphnia - Daphnia magna Fish - Lepomis macrochirus Crustaceans - Crangon crangon - Adult Daphnia - Daphnia magna Fish - Pimephales promelas - Embryo	48 hours 96 hours 48 hours 21 days 32 days

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
P200 Ladder Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
P200 Reducing Sample Buffer Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
P200 Non-Reducing Sample Buffer Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
P200 Markers Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

Section 12. Ecological information

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
P200 Ladder Glycerol	-1.76	-	low
P200 Reducing Sample Buffer Glycerol	-1.76	-	low
P200 Non-Reducing Sample Buffer Glycerol	-1.76	-	low
P200 Markers Glycerol	-1.76	-	low
P200 5X Labeling Dye N,N-Dimethylformamide	-1.01	0.79	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

12.5 Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

DOT / TDG / Mexico / IMDG / IATA : Not regulated.

Additional information

DOT Classification : **Reportable quantity** 3733.3 lbs / 1694.9 kg. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
Commerce control list precursor: 2,2',2''-Nitrilotriethanol
Clean Water Act (CWA) 311: Sodium hydroxide; Disodium hydrogenorthophosphate; Orthophosphoric acid

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
P200 Ladder Sodium azide	≤0.1	Yes.	500	-	1000	-

SARA 304 RQ : 80738177.6 lbs / 36655132.6 kg

SARA 311/312

Classification : **P200 Ladder** EYE IRRITATION - Category 2A
P200 Reducing Sample Buffer EYE IRRITATION - Category 2B
P200 Non-Reducing Sample Buffer EYE IRRITATION - Category 2B
P200 Markers EYE IRRITATION - Category 2B
P200 pH Buffer Not applicable.
P200 5X Labeling Dye EYE IRRITATION - Category 2A
 CARCINOGENICITY - Category 1B
 TOXIC TO REPRODUCTION (Unborn child) - Category 1B

Section 15. Regulatory information

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (liver) - Category 2
Not applicable.

P200 Labeling Buffer

Composition/information on ingredients

Name	%	Classification
P200 Ladder Glycerol trehalose (R*,R*)-1,4-Dimercaptobutane-2,3-diol	≥25 - ≤50 ≤10 ≤3	EYE IRRITATION - Category 2A COMBUSTIBLE DUSTS ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
P200 Reducing Sample Buffer Sucrose Glycerol	≥25 - ≤50 ≥10 - ≤25	COMBUSTIBLE DUSTS EYE IRRITATION - Category 2A
P200 Non-Reducing Sample Buffer Sucrose Glycerol	≥25 - ≤50 ≥10 - ≤25	COMBUSTIBLE DUSTS EYE IRRITATION - Category 2A
P200 Markers Glycerol Sucrose	≥25 - ≤50 ≥25 - ≤50	EYE IRRITATION - Category 2A COMBUSTIBLE DUSTS
P200 5X Labeling Dye N,N-Dimethylformamide	≥10 - <20	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A CARCINOGENICITY - Category 1B TOXIC TO REPRODUCTION (Unborn child) - Category 1B SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (liver) - Category 2
P200 Labeling Buffer 2-(Cyclohexylamino)ethanesulphonic acid	≤3	EYE IRRITATION - Category 2A

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	P200 5X Labeling Dye N,N-Dimethylformamide	68-12-2	≥10 - <20
Supplier notification	P200 5X Labeling Dye N,N-Dimethylformamide	68-12-2	≥10 - <20

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts

: The following components are listed: GLYCERINE MIST; DIMETHYLFORMAMIDE; SUCROSE DUST

New York

: The following components are listed: Dimethyl formamide

New Jersey

: The following components are listed: GLYCERIN; 1,2,3-PROPANETRIOL; DIMETHYLFORMAMIDE; FORMAMIDE, N,N-DIMETHYL-

Section 15. Regulatory information

Pennsylvania : The following components are listed: 1,2,3-PROPANETRIOL; FORMAMIDE, N,N-DIMETHYL-; .ALPHA.-D-GLUCOPYRANOSIDE, .BETA.-D-FRUCTOFURANOSYL

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Ingredient name	List name	Status
P200 Reducing Sample Buffer Triethanolamine	Schedule III	Listed

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : Not determined.
Canada : Not determined.
China : Not determined.
Europe : Not determined.
Japan : **Japan inventory (ENCS)**: Not determined.
Japan inventory (ISHL): Not determined.
Malaysia : Not determined.
New Zealand : Not determined.
Philippines : Not determined.
Republic of Korea : Not determined.
Taiwan : Not determined.
Thailand : Not determined.
Turkey : Not determined.
United States : Not determined.
Viet Nam : Not determined.

Section 16. Other information

History

Date of issue : 03/26/2018

Date of previous issue : 11/16/2016

Version : 5

Procedure used to derive the classification

Section 16. Other information

Classification	Justification
P200 Ladder EYE IRRITATION - Category 2A	Calculation method
P200 Reducing Sample Buffer EYE IRRITATION - Category 2B	Calculation method
P200 Non-Reducing Sample Buffer EYE IRRITATION - Category 2B	Calculation method
P200 Markers EYE IRRITATION - Category 2B	Calculation method
P200 5X Labeling Dye EYE IRRITATION - Category 2A CARCINOGENICITY - Category 1B TOXIC TO REPRODUCTION (Unborn child) - Category 1B SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (liver) - Category 2	Calculation method Calculation method Calculation method Calculation method

Indicates information that has changed from previously issued version.

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