



SAFETY DATA SHEET

Berichrom® F XIII

Section 1. Identification

Product identifier : Berichrom® F XIII
Product code : OWSU11, 10873897; OWSU135J, 10465717
Product type : Solid.

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

Not applicable.

Manufactured/supplied : Sysmex Americas
 577 Aptakisic RD
 Lincolnshire, IL 60069
 Company Phone Number: (224) 543-9500

Emergency telephone number ChemTel Inc.
 1-800-255-3924 (North America)
 1-813-248-0585 (International)

Section 2. Hazards identification

OSHA/HCS status : Berichrom® F XIII Activator Reagent This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
 Berichrom® F XIII Activator Diluent This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
 Berichrom® F XIII Detection Reagent This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : **Berichrom® F XIII Activator Reagent**
 ACUTE TOXICITY (oral) Category 4
 ACUTE TOXICITY (dermal) Category 4
 RESPIRATORY SENSITIZATION Category 1

Berichrom® F XIII Activator Diluent
 ACUTE TOXICITY (oral) Category 4
 ACUTE TOXICITY (dermal) Category 3

Berichrom® F XIII Detection Reagent
 ACUTE TOXICITY (oral) Category 4
 ACUTE TOXICITY (dermal) Category 3
 SERIOUS EYE DAMAGE Category 1

Additional information : Not available.

Sodium azide may react with lead or copper plumbing to form highly explosive metal azides.

GHS label elements

Hazard pictograms :

Signal word : Berichrom® F XIII Activator Reagent Danger
 Berichrom® F XIII Activator Diluent Danger
 Berichrom® F XIII Detection Reagent Danger

Section 2. Hazards identification

Hazard statements	: Berichrom® F XIII Activator Reagent	H302 + H312 - Harmful if swallowed or in contact with skin. H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
	Berichrom® F XIII Activator Diluent	H302 - Harmful if swallowed. H311 - Toxic in contact with skin.
	Berichrom® F XIII Detection Reagent	H302 - Harmful if swallowed. H311 - Toxic in contact with skin. H318 - Causes serious eye damage.
 <u>Precautionary statements</u>		
Prevention	: Berichrom® F XIII Activator Reagent	P280 - Wear protective gloves and protective clothing. P284 - Wear respiratory protection. P261 - Avoid breathing dust. P270 - Do not eat, drink or smoke when using this product.
	Berichrom® F XIII Activator Diluent	P264 - Wash thoroughly after handling. P280 - Wear protective gloves and protective clothing. P270 - Do not eat, drink or smoke when using this product.
	Berichrom® F XIII Detection Reagent	P264 - Wash thoroughly after handling. P280 - Wear protective gloves and protective clothing. Wear eye or face protection. P270 - Do not eat, drink or smoke when using this product.
Response	: Berichrom® F XIII Activator Reagent	P264 - Wash thoroughly after handling. P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
	Berichrom® F XIII Activator Diluent	P301 + P312, P330 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. P302 + P312, P352 - IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of soap and water. P362 + P364 - Take off contaminated clothing and wash it before reuse. P301 + P312, P330 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. P361 + P364 - Take off immediately all contaminated clothing and wash it before reuse.
	Berichrom® F XIII Detection Reagent	P302 + P312, P352 - IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of soap and water. P301 + P312, P330 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. P361 + P364 - Take off immediately all contaminated clothing and wash it before reuse. P302 + P312, P352 - IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of soap and water. P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

Section 2. Hazards identification

		present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
Storage	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not applicable. P405 - Store locked up. P405 - Store locked up.
Disposal	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	None known. None known. None known.
Hazards not otherwise classified	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	None known. None known. None known.

Section 3. Composition/information on ingredients

Substance/mixture	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Mixture Mixture Mixture
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Ingredient name	%	CAS number
Berichrom® F XIII Activator Reagent		
Calcium chloride (CaCl ₂), dihydrate	≤5	10035-04-8
sodium azide	<2	26628-22-8
Thrombin	≤0.3	9002-04-4
Berichrom® F XIII Activator Diluent		
sodium azide	<9	26628-22-8
Berichrom® F XIII Detection Reagent		
ethyl glycinate hydrochloride	≥10 - ≤25	623-33-6
sodium azide	≤5	26628-22-8

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

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

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent	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 if irritation occurs. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any
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Section 4. First aid measures

	Berichrom® F XIII Detection Reagent	contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.
Inhalation	: Berichrom® F XIII Activator Reagent	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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 necessary, call a poison center or physician. 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. In the event of any complaints or symptoms, avoid further exposure.
	Berichrom® F XIII Activator Diluent	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 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.
	Berichrom® F XIII Detection Reagent	Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. 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

Section 4. First aid measures

Skin contact	: Berichrom® F XIII Activator Reagent	<p>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.</p> <p>Wash with plenty of soap and 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 if adverse health effects persist or are severe. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.</p>
	Berichrom® F XIII Activator Diluent	<p>Wash with plenty of soap and 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. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.</p>
	Berichrom® F XIII Detection Reagent	<p>Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and 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. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.</p>
Ingestion	: Berichrom® F XIII Activator Reagent	<p>Wash out mouth with water. Remove dentures if any. 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 necessary, call a poison center or physician. 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.</p>
	Berichrom® F XIII Activator Diluent	<p>Wash out mouth with water. Remove dentures if any. 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 necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention</p>

Section 4. First aid measures

Berichrom® F XIII Detection Reagent

immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. 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. Chemical burns must be treated promptly by a physician. 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: Berichrom® F XIII Activator Reagent	No known significant effects or critical hazards.
	Berichrom® F XIII Activator Diluent	No known significant effects or critical hazards.
	Berichrom® F XIII Detection Reagent	Causes serious eye damage.
Inhalation	: Berichrom® F XIII Activator Reagent	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
	Berichrom® F XIII Activator Diluent	No known significant effects or critical hazards.
	Berichrom® F XIII Detection Reagent	No known significant effects or critical hazards.
Skin contact	: Berichrom® F XIII Activator Reagent	Harmful in contact with skin.
	Berichrom® F XIII Activator Diluent	Toxic in contact with skin.
	Berichrom® F XIII Detection Reagent	Toxic in contact with skin.
Ingestion	: Berichrom® F XIII Activator Reagent	Harmful if swallowed.
	Berichrom® F XIII Activator Diluent	Harmful if swallowed.
	Berichrom® F XIII Detection Reagent	Harmful if swallowed.

Over-exposure signs/symptoms

Eye contact	: Berichrom® F XIII Activator Reagent	No specific data.
	Berichrom® F XIII Activator Diluent	No specific data.
	Berichrom® F XIII Detection Reagent	Adverse symptoms may include the following: pain watering redness
Inhalation	: Berichrom® F XIII Activator Reagent	Adverse symptoms may include the following: wheezing and breathing difficulties asthma
	Berichrom® F XIII Activator Diluent	No specific data.
	Berichrom® F XIII Detection Reagent	No specific data.
Skin contact	: Berichrom® F XIII Activator Reagent	No specific data.
	Berichrom® F XIII Activator Diluent	No specific data.
	Berichrom® F XIII Detection Reagent	Adverse symptoms may include the following: pain or irritation redness blistering may occur

Section 4. First aid measures

Ingestion	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	No specific data. No specific data. Adverse symptoms may include the following: stomach pains
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Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	: 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	: No specific treatment.
Protection of first-aiders	: 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 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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: In case of fire, use water spray (fog), foam or dry chemical.
Unsuitable extinguishing media	: None known.
Specific hazards arising from the chemical	: No specific fire or explosion hazard.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides phosphorus oxides halogenated compounds metal oxide/oxides
Special protective actions for fire-fighters	: 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.
Special protective equipment for fire-fighters	: 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

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: 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. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	: 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".
Environmental precautions	: 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).

Methods and materials for containment and cleaning up

Section 6. Accidental release measures

- Small spill** : Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. 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.
- Advice on general occupational hygiene** : 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.

- Conditions for safe storage, including any incompatibilities** : 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Berichrom® F XIII Activator Reagent sodium azide	ACGIH TLV (United States, 1/2021). C: 0.29 mg/m ³ , (as Sodium azide) C: 0.11 ppm, (as Hydrazoic acid vapor) OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. CEIL: 0.1 ppm, (as HN ₃) CEIL: 0.3 mg/m ³ , (as NaN ₃) NIOSH REL (United States, 10/2020). Absorbed through skin. CEIL: 0.1 ppm, (as HN ₃) CEIL: 0.3 mg/m ³ , (NaN ₃)
Berichrom® F XIII Activator Diluent sodium azide	ACGIH TLV (United States, 1/2021). C: 0.29 mg/m ³ , (as Sodium azide) C: 0.11 ppm, (as Hydrazoic acid vapor) OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. CEIL: 0.1 ppm, (as HN ₃) CEIL: 0.3 mg/m ³ , (as NaN ₃) NIOSH REL (United States, 10/2020). Absorbed through skin. CEIL: 0.1 ppm, (as HN ₃) CEIL: 0.3 mg/m ³ , (NaN ₃)

Section 8. Exposure controls/personal protection

Berichrom® F XIII Detection Reagent sodium azide

ACGIH TLV (United States, 1/2021).
C: 0.29 mg/m³, (as Sodium azide)
C: 0.11 ppm, (as Hydrazoic acid vapor)
OSHA PEL 1989 (United States, 3/1989).
Absorbed through skin.
CEIL: 0.1 ppm, (as HN3)
CEIL: 0.3 mg/m³, (as NaN3)
NIOSH REL (United States, 10/2020).
Absorbed through skin.
CEIL: 0.1 ppm, (as HN3)
CEIL: 0.3 mg/m³, (NaN3)

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, 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 and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

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

Physical state	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Solid. Solid. Solid.
Color	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	White to yellowish. [Light] White to yellowish. [Light] White to yellowish. [Light]
Odor	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Odorless. Odorless. Odorless.

Section 9. Physical and chemical properties

pH	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not applicable. Not applicable. Not applicable.
Flash point	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	[Product does not sustain combustion.] [Product does not sustain combustion.] [Product does not sustain combustion.]
Flammability (solid, gas)	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not relevant/applicable due to nature of the product. Not relevant/applicable due to nature of the product. Not relevant/applicable due to nature of the product.
Relative density	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not available. Not available. Not available.
Solubility(ies)	:	
Not available.		
Solubility in water	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not available. Not available. Not available.
Partition coefficient: n-octanol/water	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not relevant/applicable due to nature of the product. Not relevant/applicable due to nature of the product. Not relevant/applicable due to nature of the product.
Auto-ignition temperature	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not relevant/applicable due to nature of the product. Not relevant/applicable due to nature of the product. Not relevant/applicable due to nature of the product.
Viscosity	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not relevant/applicable due to nature of the product. Not relevant/applicable due to nature of the product. Not relevant/applicable due to nature of the product.
<u>Aerosol product</u>		
Type of aerosol	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not applicable. Not applicable. Not applicable.

Section 10. Stability and reactivity

Reactivity	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	The product is stable. The product is stable. The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.	
Conditions to avoid	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	No specific data. No specific data. No specific data.

Section 10. Stability and reactivity

Incompatible materials	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	No specific data. No specific data. No specific data.
Hazardous decomposition products	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	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 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Berichrom® F XIII Activator Reagent sodium azide	LD50 Dermal	Rabbit	20 mg/kg	-
	LD50 Dermal	Rat	50 mg/kg	-
	LD50 Oral	Rat	27 mg/kg	-
Berichrom® F XIII Activator Diluent sodium azide	LD50 Dermal	Rabbit	20 mg/kg	-
	LD50 Dermal	Rat	50 mg/kg	-
	LD50 Oral	Rat	27 mg/kg	-
Berichrom® F XIII Detection Reagent sodium azide	LD50 Dermal	Rabbit	20 mg/kg	-
	LD50 Dermal	Rat	50 mg/kg	-
	LD50 Oral	Rat	27 mg/kg	-

Conclusion/Summary	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not available. Not available. Not available.
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Irritation/Corrosion

Not available.

Conclusion/Summary

Skin	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not available. Not available. Not available.
Eyes	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not available. Not available. Not available.
Respiratory	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not available. Not available. Not available.

Sensitization

Not available.

Conclusion/Summary

Skin	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not available. Not available. Not available.
Respiratory	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not available. Not available. Not available.

Section 11. Toxicological information

Mutagenicity

Not available.

Conclusion/Summary : Berichrom® F XIII Activator Reagent Not available.
 Berichrom® F XIII Activator Diluent Not available.
 Berichrom® F XIII Detection Reagent Not available.

Carcinogenicity

Not available.

Conclusion/Summary : Berichrom® F XIII Activator Reagent Not available.
 Berichrom® F XIII Activator Diluent Not available.
 Berichrom® F XIII Detection Reagent Not available.

Reproductive toxicity

Not available.

Conclusion/Summary : Berichrom® F XIII Activator Reagent Not available.
 Berichrom® F XIII Activator Diluent Not available.
 Berichrom® F XIII Detection Reagent Not available.

Teratogenicity

Not available.

Conclusion/Summary : Berichrom® F XIII Activator Reagent Not available.
 Berichrom® F XIII Activator Diluent Not available.
 Berichrom® F XIII Detection Reagent Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Berichrom® F XIII Activator Reagent Thrombin	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Berichrom® F XIII Activator Reagent Not available.
 Berichrom® F XIII Activator Diluent Not available.
 Berichrom® F XIII Detection Reagent Not available.

Potential acute health effects

Eye contact : Berichrom® F XIII Activator Reagent No known significant effects or critical hazards.
 Berichrom® F XIII Activator Diluent No known significant effects or critical hazards.
 Berichrom® F XIII Detection Reagent Causes serious eye damage.

Inhalation : Berichrom® F XIII Activator Reagent May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 Berichrom® F XIII Activator Diluent No known significant effects or critical hazards.
 Berichrom® F XIII Detection Reagent No known significant effects or critical hazards.

Skin contact : Berichrom® F XIII Activator Reagent Harmful in contact with skin.
 Berichrom® F XIII Activator Diluent Toxic in contact with skin.
 Berichrom® F XIII Detection Reagent Toxic in contact with skin.

Ingestion : Berichrom® F XIII Activator Reagent Harmful if swallowed.
 Berichrom® F XIII Activator Diluent Harmful if swallowed.
 Berichrom® F XIII Detection Reagent Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Section 11. Toxicological information

Eye contact	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	No specific data. No specific data. Adverse symptoms may include the following: pain watering redness
Inhalation	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Adverse symptoms may include the following: wheezing and breathing difficulties asthma No specific data. No specific data.
Skin contact	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	No specific data. No specific data. Adverse symptoms may include the following: pain or irritation redness blistering may occur
Ingestion	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	No specific data. No specific data. Adverse symptoms may include the following: stomach pains

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

Short term exposure

Potential immediate effects	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not available. Not available. Not available.
Potential delayed effects	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not available. Not available. Not available.

Long term exposure

Potential immediate effects	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not available. Not available. Not available.
Potential delayed effects	: Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not available. Not available. Not available.

Potential chronic health effects

Not available.

Conclusion/Summary	: Not available. Not available. Not available.	Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent
General	: No known significant effects or critical hazards.	
Carcinogenicity	: No known significant effects or critical hazards.	
Mutagenicity	: No known significant effects or critical hazards.	
Reproductive toxicity	: No known significant effects or critical hazards.	

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Reagent sodium azide	1363.6 27	1010.1 20	N/A N/A	N/A N/A	N/A N/A
Berichrom® F XIII Activator Diluent Berichrom® F XIII Activator Diluent sodium azide	324.1 27	240.1 20	N/A N/A	N/A N/A	N/A N/A
Berichrom® F XIII Detection Reagent Berichrom® F XIII Detection Reagent sodium azide	663.4 27	491.4 20	N/A N/A	N/A N/A	N/A N/A

Interactive effects : Berichrom® F XIII Activator Reagent Not available.
Berichrom® F XIII Activator Diluent Not available.
Berichrom® F XIII Detection Reagent Not available.

Other information : Berichrom® F XIII Activator Reagent Not available.
Berichrom® F XIII Activator Diluent Not available.
Berichrom® F XIII Detection Reagent Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Berichrom® F XIII Activator Reagent sodium azide	Acute EC50 9200 µg/l Marine water	Algae - <i>Macrocystis pyrifera</i>	96 hours
	Acute EC50 6.4 mg/l Fresh water	Crustaceans - <i>Simocephalus serrulatus</i> - Larvae	48 hours
	Acute EC50 4.2 mg/l Fresh water	Daphnia - <i>Daphnia pulex</i> - Larvae	48 hours
	Acute LC50 0.68 mg/l Fresh water	Fish - <i>Lepomis macrochirus</i>	96 hours
	Chronic NOEC 5600 µg/l Marine water	Algae - <i>Macrocystis pyrifera</i>	96 hours
Berichrom® F XIII Activator Diluent sodium azide	Acute EC50 9200 µg/l Marine water	Algae - <i>Macrocystis pyrifera</i>	96 hours
	Acute EC50 6.4 mg/l Fresh water	Crustaceans - <i>Simocephalus serrulatus</i> - Larvae	48 hours
	Acute EC50 4.2 mg/l Fresh water	Daphnia - <i>Daphnia pulex</i> - Larvae	48 hours
	Acute LC50 0.68 mg/l Fresh water	Fish - <i>Lepomis macrochirus</i>	96 hours
	Chronic NOEC 5600 µg/l Marine water	Algae - <i>Macrocystis pyrifera</i>	96 hours
Berichrom® F XIII Detection Reagent sodium azide	Acute EC50 9200 µg/l Marine water	Algae - <i>Macrocystis pyrifera</i>	96 hours
	Acute EC50 6.4 mg/l Fresh water	Crustaceans - <i>Simocephalus serrulatus</i> - Larvae	48 hours
	Acute EC50 4.2 mg/l Fresh water	Daphnia - <i>Daphnia pulex</i> - Larvae	48 hours
	Acute LC50 0.68 mg/l Fresh water	Fish - <i>Lepomis macrochirus</i>	96 hours
	Chronic NOEC 5600 µg/l Marine water	Algae - <i>Macrocystis pyrifera</i>	96 hours

Conclusion/Summary : Berichrom® F XIII Activator Reagent Not available.
Berichrom® F XIII Activator Diluent Not available.
Berichrom® F XIII Detection Reagent Not available.

Persistence and degradability

Conclusion/Summary : Berichrom® F XIII Activator Reagent Not available.
Berichrom® F XIII Activator Diluent Not available.
Berichrom® F XIII Detection Reagent Not available.

Section 12. Ecological information

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc})	: Berichrom® F XIII Activator Reagent	Not available.
	: Berichrom® F XIII Activator Diluent	Not available.
	: Berichrom® F XIII Detection Reagent	Not available.
Mobility	: Berichrom® F XIII Activator Reagent	Not available.
	: Berichrom® F XIII Activator Diluent	Not available.
	: Berichrom® F XIII Detection Reagent	Not available.

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

Section 13. Disposal considerations

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.

Sodium azide may react with lead or copper plumbing to form highly explosive metal azides.

United States - RCRA Acute hazardous waste "P" List

Ingredient	CAS #	Status	Reference number
Berichrom® F XIII Activator Reagent Sodium azide	26628-22-8	Listed	P105
Berichrom® F XIII Activator Diluent Sodium azide	26628-22-8	Listed	P105
Berichrom® F XIII Detection Reagent Sodium azide	26628-22-8	Listed	P105



Section 14. Transport information

DOT Classification



UN number	Berichrom® F XIII Activator Reagent	Not regulated.
	Berichrom® F XIII Activator Diluent	UN3288
	Berichrom® F XIII Detection Reagent	UN3288
UN proper shipping name	Berichrom® F XIII Activator Reagent	-
	Berichrom® F XIII Activator Diluent	TOXIC SOLID, INORGANIC, N.O.S. (sodium azide)
	Berichrom® F XIII Detection Reagent	TOXIC SOLID, INORGANIC, N.O.S. (sodium azide)
Transport hazard class(es)	Berichrom® F XIII Activator Reagent	-
	Berichrom® F XIII Activator Diluent	6.1
	Berichrom® F XIII Detection Reagent	6.1



Section 14. Transport information

Packing group	Berichrom® F XIII Activator Reagent	-
	Berichrom® F XIII Activator Diluent	III
	Berichrom® F XIII Detection Reagent	III
Environmental hazards	Berichrom® F XIII Activator Reagent	No.
	Berichrom® F XIII Activator Diluent	No.
	Berichrom® F XIII Detection Reagent	No.
Additional information	Berichrom® F XIII Activator Reagent	-
	Berichrom® F XIII Activator Diluent	-
	Berichrom® F XIII Detection Reagent	-
TDG Classification		
UN number	Berichrom® F XIII Activator Reagent	Not regulated.
	Berichrom® F XIII Activator Diluent	UN3288
	Berichrom® F XIII Detection Reagent	UN3288
UN proper shipping name	Berichrom® F XIII Activator Reagent	-
	Berichrom® F XIII Activator Diluent	TOXIC SOLID, INORGANIC, N.O.S. (sodium azide)
	Berichrom® F XIII Detection Reagent	TOXIC SOLID, INORGANIC, N.O.S. (sodium azide)
Transport hazard class(es)	Berichrom® F XIII Activator Reagent	-
	Berichrom® F XIII Activator Diluent	6.1
	Berichrom® F XIII Detection Reagent	6.1
		
Packing group	Berichrom® F XIII Activator Reagent	-
	Berichrom® F XIII Activator Diluent	III
	Berichrom® F XIII Detection Reagent	III
Environmental hazards	Berichrom® F XIII Activator Reagent	No.
	Berichrom® F XIII Activator Diluent	No.
	Berichrom® F XIII Detection Reagent	No.
Additional information	Berichrom® F XIII Activator Reagent	-
	Berichrom® F XIII Activator Diluent	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.26-2.36 (Class 6).
	Berichrom® F XIII Detection Reagent	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.26-2.36 (Class 6).
ADR/RID		
UN number	Berichrom® F XIII Activator Reagent	Not regulated.
	Berichrom® F XIII Activator Diluent	UN3288
	Berichrom® F XIII Detection Reagent	UN3288
UN proper shipping name	Berichrom® F XIII Activator Reagent	-
	Berichrom® F XIII Activator Diluent	TOXIC SOLID, INORGANIC, N.O.S. (sodium azide)
	Berichrom® F XIII Detection Reagent	TOXIC SOLID, INORGANIC, N.O.S. (sodium azide)
Transport hazard class(es)	Berichrom® F XIII Activator Reagent	-
	Berichrom® F XIII Activator Diluent	6.1
	Berichrom® F XIII Detection Reagent	6.1
		
Packing group	Berichrom® F XIII Activator Reagent	-
	Berichrom® F XIII Activator Diluent	III
	Berichrom® F XIII Detection Reagent	III

Section 14. Transport information

Environmental hazards	Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	No. No. No.
Additional information	Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	- Tunnel code (E) Tunnel code (E)
IMDG		
UN number	Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not regulated. UN3288 UN3288
UN proper shipping name	Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	- TOXIC SOLID, INORGANIC, N.O.S. (sodium azide) TOXIC SOLID, INORGANIC, N.O.S. (sodium azide)
Transport hazard class(es)	Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	- 6.1 6.1
		
Packing group	Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	- III III
Environmental hazards	Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	No. No. No.
Additional information	Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	- - -
IATA		
UN number	Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	Not regulated. UN3288 UN3288
UN proper shipping name	Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	- TOXIC SOLID, INORGANIC, N.O.S. (sodium azide) TOXIC SOLID, INORGANIC, N.O.S. (sodium azide)
Transport hazard class(es)	Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	- 6.1 6.1
		
Packing group	Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	- III III
Environmental hazards	Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	No. No. No.
Additional information	Berichrom® F XIII Activator Reagent Berichrom® F XIII Activator Diluent Berichrom® F XIII Detection Reagent	- - -

Section 14. Transport information

Special precautions for user : Berichrom® F XIII Activator Reagent

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.

Berichrom® F XIII Activator Diluent

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.

Berichrom® F XIII Detection Reagent

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 IMO instruments : Not applicable.

Section 15. Regulatory information

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Clean Air Act Section 112 : Not listed

(b) Hazardous Air Pollutants (HAPs)

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)
Berichrom® F XIII Activator Reagent sodium azide	1.98	Yes.	500	-	1000	-
Berichrom® F XIII Activator Diluent sodium azide	8.33	Yes.	500	-	1000	-
Berichrom® F XIII Detection Reagent sodium azide	4.07	Yes.	500	-	1000	-

SARA 304 RQ : 20862.3 lbs / 9471.5 kg

SARA 311/312

Classification : ACUTE TOXICITY (oral) - Category 4
ACUTE TOXICITY (dermal) - Category 3
SERIOUS EYE DAMAGE - Category 1

Composition/information on ingredients

Section 15. Regulatory information

Name	%	Classification
Berichrom® F XIII Activator Reagent Calcium chloride (CaCl ₂), dihydrate sodium azide	≤5 <2	EYE IRRITATION - Category 2A ACUTE TOXICITY (oral) - Category 2 ACUTE TOXICITY (dermal) - Category 1
Thrombin	≤0.3	SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A RESPIRATORY SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Berichrom® F XIII Activator Diluent sodium azide	<9	ACUTE TOXICITY (oral) - Category 2 ACUTE TOXICITY (dermal) - Category 1
Berichrom® F XIII Detection Reagent ethyl glycinate hydrochloride sodium azide	≥10 - ≤25 ≤5	SERIOUS EYE DAMAGE - Category 1 ACUTE TOXICITY (oral) - Category 2 ACUTE TOXICITY (dermal) - Category 1

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Berichrom® F XIII Activator Reagent sodium azide	26628-22-8	1.98
	Berichrom® F XIII Activator Diluent sodium azide	26628-22-8	8.33
	Berichrom® F XIII Detection Reagent sodium azide	26628-22-8	4.07
Supplier notification	Berichrom® F XIII Activator Reagent sodium azide	26628-22-8	1.98
	Berichrom® F XIII Activator Diluent sodium azide	26628-22-8	8.33
	Berichrom® F XIII Detection Reagent sodium azide	26628-22-8	4.07

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: SODIUM AZIDE
New York : The following components are listed: Sodium azide
New Jersey : The following components are listed: SODIUM AZIDE
Pennsylvania : The following components are listed: SODIUM AZIDE

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Section 16. Other information

History

Date of issue/Date of revision : 3/19/2024

Version : 1

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations N/A = Not available SGG = Segregation Group

▣ Indicates information that has changed from previously issued version.