

Safety Data Sheet

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Document Group: 28-0707-1 4.00 **Version Number: Issue Date:** 03/10/15 12/08/14 **Supercedes Date:**

SECTION 1: Identification

1.1. Product identifier

3M Scotchkote Epoxy Ceramic HD Surfacer HG 519 (Part A)

Product Identification Numbers

GR-2001-0824-3, GR-2001-0830-0, GR-2001-0936-5, GR-2001-0938-1, GR-2001-1751-7, GR-2001-1753-3

1.2. Recommended use and restrictions on use

Recommended use

Coating, Heavy duty ceramic coating.

1.3. Supplier's details

MANUFACTURER: 3M

DIVISION: 3M United Kingdom

Infrastructure Protection Division

ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA **Telephone:** 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Serious Eye Damage/Irritation: Category 2B.

Skin Sensitizer: Category 1. Carcinogenicity: Category 1A.

2.2. Label elements

Signal word

Danger

Exclamation mark | Health Hazard |

Pictograms

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Hazard Statements

Causes eye irritation.

May cause an allergic skin reaction.

May cause cancer.

Precautionary Statements

Prevention:

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Wear protective gloves.

Wash thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

IF exposed or concerned: Get medical advice/attention.

Storage:

Store locked up.

Disposal

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Hazards not otherwise classified

None.

9% of the mixture consists of ingredients of unknown acute oral toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
SILICON CARBIDE	409-21-2	40 - 50 Trade Secret *
4,4'-ISOPROPYLIDENEDIPHENOL-	25068-38-6	10 - 20 Trade Secret *
EPICHLOROHYDRIN POLYMER		
PHENOL-FORMALDEHYDE POLYMER GLYCIDYL	28064-14-4	10 - 20 Trade Secret *
ETHER		
ZIRCONIUM OXIDE	1314-23-4	1 - 10 Trade Secret *
NON-HAZARDOUS INGREDIENTS	Mixture	1 - 5
OXIDE GLASS CHEMICALS	65997-17-3	1 - 5 Trade Secret *
ALUMINUM OXIDE	1344-28-1	< 1 Trade Secret *
QUARTZ SILICA	14808-60-7	< 1 Trade Secret *

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*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

SubstanceConditionAldehydesDuring CombustionCarbon monoxideDuring CombustionCarbon dioxideDuring CombustionHydrogen ChlorideDuring Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial or professional use only. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Store away from heat. Keep from freezing. Store away from acids. Store away from strong bases. Store away from oxidizing agents. Store away from amines.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
ZIRCONIUM COMPOUNDS	1314-23-4	ACGIH	TWA(as Zr):5	A4: Not class. as human
			mg/m3;STEL(as Zr):10 mg/m3	carcin
ZIRCONIUM COMPOUNDS	1314-23-4	OSHA	TWA(as Zr):5 mg/m3	
ALUMINUM OXIDE	1344-28-1	CMRG	TWA:1 fiber/cc	
ALUMINUM OXIDE	1344-28-1	OSHA	TWA(as total dust):15	
			mg/m3;TWA(respirable	
			fraction):5 mg/m3	
Aluminum, insoluble compounds	1344-28-1	ACGIH	TWA(respirable fraction):1	A4: Not class. as human
			mg/m3	carcin
QUARTZ SILICA	14808-60-7	OSHA	TWA concentration(as total	
			dust):0.3 mg/m3;TWA	
			concentration(respirable):0.1	
			mg/m3(2.4 millions of	
			particles/cu. ft.)	
QUARTZ SILICA	14808-60-7	ACGIH	TWA(respirable	A2: Suspected human
			fraction):0.025 mg/m3	carcin.
SILICON CARBIDE	409-21-2	OSHA	TWA(as total dust):15	
			mg/m3;TWA(respirable	
			fraction):5 mg/m3	
OXIDE GLASS CHEMICALS	65997-17-3	Manufacturer	TWA(as dust):10 mg/m3	
		determined		

ACGIH: American Conference of Governmental Industrial Hygienists

AIHA: American Industrial Hygiene Association

CMRG: Chemical Manufacturer's Recommended Guidelines

OSHA: United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form: Solid Specific Physical Form: Paste

Odor, Color, Grade: Faint epoxy odor; Grey/Black color

Odor thresholdNo Data AvailablepHNo Data AvailableMelting pointNot ApplicableBoiling Point> 240 °C

Flash Point 240 °C [Test Method: Closed Cup]

Evaporation rateNot ApplicableFlammability (solid, gas)Not ClassifiedFlammable Limits(LEL)No Data AvailableFlammable Limits(UEL)No Data AvailableVapor PressureNo Data AvailableVapor DensityNo Data Available

Density 2.00 g/ml

Specific Gravity 2.00 [Ref Std: WATER=1]

Solubility in Water Negligible

Solubility- non-water No Data Available Partition coefficient: n-octanol/ water No Data Available

Autoignition temperature $>=300 \, {}^{\circ}\text{C}$

No Data Available **Decomposition temperature** Viscosity No Data Available

Volatile Organic Compounds 0 g/l [Test Method: Estimated] [Details: EU Definition (Part A

and B mix)]

Percent volatile 0 % weight

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature exothermic reaction with production of intense heat and smoke.

10.5. Incompatible materials

Accelerators

Amines

Strong acids

Strong bases

Strong oxidizing agents

Reaction with water, alcohols, and amines is not hazardous if container can vent to the atmosphere to prevent pressure buildup.

10.6. Hazardous decomposition products

Substance Condition

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Additional Health Effects:

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

Ingredient	CAS No.	Class Description	Regulation
SILICA, CRYS AIRRESP	14808-60-7	Known human carcinogen	National Toxicology Program Carcinogens
QUARTZ SILICA	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
SILICON CARBIDE	Dermal	Rat	LD50 > 2,000 mg/kg
SILICON CARBIDE	Ingestion	Rat	LD50 > 2,000 mg/kg
PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER	Dermal	Rabbit	LD50 > 6,000 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN	Dermal	Rat	LD50 > 1,600 mg/kg
POLYMER			
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN	Ingestion	Rat	LD50 > 1,000 mg/kg
POLYMER			
PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER	Inhalation-	Rat	LC50 > 1.7 mg/l
	Dust/Mist		
	(4 hours)		
PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER	Ingestion	Rat	LD50 > 4,000 mg/kg
ZIRCONIUM OXIDE	Dermal		LD50 estimated to be > 5,000 mg/kg
ZIRCONIUM OXIDE	Ingestion	Mouse	LD50 > 8,800 mg/kg
ZIRCONIUM OXIDE	Inhalation-	Rat	LC50 > 4.3 mg/l
	Dust/Mist		
	(4 hours)		
OXIDE GLASS CHEMICALS	Dermal		LD50 estimated to be > 5,000 mg/kg
OXIDE GLASS CHEMICALS	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
QUARTZ SILICA	Dermal		LD50 estimated to be > 5,000 mg/kg
QUARTZ SILICA	Ingestion		LD50 estimated to be > 5,000 mg/kg
ALUMINUM OXIDE	Dermal		LD50 estimated to be > 5,000 mg/kg
ALUMINUM OXIDE	Inhalation-	Rat	LC50 > 2.3 mg/l
	Dust/Mist		
	(4 hours)		
ALUMINUM OXIDE	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
	_	
SILICON CARBIDE	Rat	No significant irritation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Rabbit	Mild irritant
PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER	Rabbit	Minimal irritation
ZIRCONIUM OXIDE	Rabbit	No significant irritation
OXIDE GLASS CHEMICALS	Professio	No significant irritation
	nal	
	judgeme	
	nt	
QUARTZ SILICA	Professio	No significant irritation
	nal	
	judgeme	
	nt	
ALUMINUM OXIDE	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
SILICON CARBIDE	Professio	No significant irritation
	nal	
	judgeme	
	nt	
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Rabbit	Moderate irritant
PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER	Rabbit	Mild irritant
ZIRCONIUM OXIDE	Rabbit	Mild irritant
OXIDE GLASS CHEMICALS	Professio	No significant irritation
	nal	
	judgeme	
	nt	
ALUMINUM OXIDE	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Human	Sensitizing
	and	
	animal	
PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER	Human	Sensitizing
	and	
	animal	

Respiratory Sensitization

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Human	Some positive data exist, but the data are not sufficient for classification

Germ Cell Mutagenicity

Route	Value
In vivo	Not mutagenic
In Vitro	Some positive data exist, but the data are not
	sufficient for classification
In Vitro	Some positive data exist, but the data are not
	sufficient for classification
In Vitro	Some positive data exist, but the data are not
	sufficient for classification
In Vitro	Some positive data exist, but the data are not
	sufficient for classification
In vivo	Some positive data exist, but the data are not
	sufficient for classification
In Vitro	Not mutagenic
	In vivo In Vitro In Vitro In Vitro In Vitro In Vitro In Vitro

Carcinogenicity

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Name	Route	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN	Dermal	Mouse	Some positive data exist, but the data are not
POLYMER			sufficient for classification
OXIDE GLASS CHEMICALS	Inhalation	Multiple	Some positive data exist, but the data are not
		animal	sufficient for classification
		species	
QUARTZ SILICA	Inhalation	Human	Carcinogenic
		and	-
		animal	
ALUMINUM OXIDE	Inhalation	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
4,4'-ISOPROPYLIDENEDIPHENOL- EPICHLOROHYDRIN POLYMER	Ingestion	Not toxic to female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL- EPICHLOROHYDRIN POLYMER	Ingestion	Not toxic to male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL- EPICHLOROHYDRIN POLYMER	Dermal	Not toxic to development	Rabbit	NOAEL 300 mg/kg/day	during organogenesi s
4,4'-ISOPROPYLIDENEDIPHENOL- EPICHLOROHYDRIN POLYMER	Ingestion	Not toxic to development	Rat	NOAEL 750 mg/kg/day	2 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

For the component/components, either no data are currently available or the data are not sufficient for classification.

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
4,4'- ISOPROPYLIDENEDIPH ENOL- EPICHLOROHYDRIN POLYMER	Dermal	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	2 years
4,4'- ISOPROPYLIDENEDIPH ENOL- EPICHLOROHYDRIN POLYMER	Dermal	nervous system	All data are negative	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4,4'- ISOPROPYLIDENEDIPH ENOL- EPICHLOROHYDRIN POLYMER	Ingestion	auditory system heart endocrine system hematopoietic system liver eyes kidney and/or bladder	All data are negative	Rat	NOAEL 1,000 mg/kg/day	28 days
OXIDE GLASS CHEMICALS	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL not available	occupational exposure
QUARTZ SILICA	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
ALUMINUM OXIDE	Inhalation	pneumoconiosis pulmonary fibrosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

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Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New

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Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 Flammability: 1 Instability: 1 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: *2 Flammability: 1 Physical Hazard: 1 Personal Protection: X - See PPE section.

Hazardous Material Identification System (HMIS® III) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

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