
Cerakote H-Series Coatings (Part A)

1 PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: Cerakote H-Series Coatings (Part A)
Common Name: Heat Curable Polymer/Ceramic Composite Coating
Revision Date: 8/22/2019
Version: 1.1
Product Use: Thin film protective coating.
Supplier Details: NIC Industries, Inc
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EMERGENCY CONTACT: CALL PERS: 1-800-633-8253 (USA & Canada) or 001-1-801-629-0667 (International).

The information contained in this Safety Data Sheet (SDS) is, to the best of our knowledge, true and accurate and presented in good faith. NIC Industries, Inc. makes no warranties, expressed or implied, as to the accuracy and adequacy of this information. Because many factors may affect processing or application/use of this product, this data is offered solely for the user's consideration, investigation and verification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or process. Regulatory requirements are subject to change and may differ from one location to another. It is the responsibility of the buyer/user to ensure its activities comply with all local, state and federal regulations.

2 HAZARDS IDENTIFICATION
Classification of the Substance or Mixture
GHS Classification in Accordance with 29 CFR 1910 (OSHA HCS):

Physical, Flammable Liquids, 3
 Health, Acute toxicity, 5 Oral
 Health, Acute toxicity, 5 Dermal
 Health, Skin corrosion/irritation, 2
 Health, Skin corrosion/irritation, 3
 Health, Respiratory or skin sensitization, 1 Skin
 Health, Serious Eye Damage/Eye Irritation, 2 A
 Health, Serious Eye Damage/Eye Irritation, 2 B
 Health, Acute toxicity, 4 Inhalation
 Health, Acute toxicity, 5 Inhalation
 Health, Specific target organ toxicity - Single exposure, 3
 Health, Carcinogenicity, 2
 Health, Specific target organ toxicity - Repeated exposure, 2

GHS Label Elements, Including Precautionary Statements

GHS Signal Word: **WARNING**

GHS Hazard Pictograms:



GHS Hazard Statements:

H226 - Flammable liquid and vapour
 H303 - May be harmful if swallowed
 H313 - May be harmful in contact with skin
 H315 - Causes skin irritation
 H316 - Causes mild skin irritation
 H317 - May cause an allergic skin reaction
 H319 - Causes serious eye irritation
 H320 - Causes eye irritation
 H332 - Harmful if inhaled

H333 - May be harmful if inhaled
H336 - May cause drowsiness or dizziness
H351 - Suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)
H373 - May cause damage to organs through prolonged or repeated exposure

GHS Precautionary Statements:

P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat/sparks/open flames/hot surfaces. No smoking
P211 - Do not spray on an open flame or other ignition source.
P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P262 - Do not get in eyes, on skin, or on clothing.
P264 - Wash skin thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection.
P281 - Use personal protective equipment as required.
P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+350 - IF ON SKIN: Gently wash with soap and water.
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 - IF exposed or concerned: Get medical advice/ attention.
P312 - Call a POISON CENTER or doctor/ physician if you feel unwell.
P321 - Specific treatment (see supplemental first aid instructions on this label).
P332 + P313 - If skin irritation occurs: Get medical advice/ attention.
P335 - Brush off loose particles from skin.
P337 + P313 - If eye irritation persists: Get medical advice/ attention.
P360 - Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P362 - Take off contaminated clothing and wash before reuse.
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P402 - Store in a dry place.
P403 + P233 - Store in a cool, well-ventilated place. Keep container tightly closed.
P404 - Store in a closed container.
P405 - Store locked up.
P501 - Dispose of contents/ container to an approved waste disposal plant.

Hazards not Otherwise Classified (HNOC) or not Covered by GHS

Route of Entry:	Eyes, Ingestion, Inhalation, Skin.
Target Organs:	Central Nervous System, Kidneys, Liver.
Inhalation:	Under conditions where exposure to vapors or mists is possible, could cause respiratory tract infection.
Skin Contact:	May be mildly irritating to the skin. May cause skin sensitization, rashes, eczema, and redness. Prolonged or repeated exposure may aggravate existing conditions.
Eye Contact:	May be irritating to the eyes.
Ingestion:	Not likely to be a relevant route of exposure, however, ingestion may cause damage to the lining of the gastrointestinal tract.

Chemical Ingredients:		
CAS#	%	Chemical Name:
98-56-6	60-80%	p-chlorobenzotrifluoride
*****	0-30%	Proprietary Thermoset Resin
78-92-2	0-5%	2-Butanol
1333-86-4	0-10%	Carbon black
*****	10-30%	Performance Ceramic #1
*****	10-30%	Performance Ceramic #2
*****	0-30%	Performance Ceramic #3
*****	1-5%	Rheology Modifier
13463-67-7	0-10%	Titanium dioxide
*****	0-15%	Performance Pigments

*Trade Secret: In accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200(i), and in accordance with the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS), the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a Trade Secret.

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

Inhalation:	If product mist or vapor causes respiratory irritation or distress, move the exposed person to fresh air immediately. If breathing is difficult or irregular, administer oxygen; if respiratory arrest occurs, start artificial respiration by trained personnel. If unconscious, maintain an open airway. Loosen tight clothing such as a collar, tie, belt, or waistband. Contact a doctor, emergency personnel, or a poison control center if the victim feels unwell.
Skin Contact:	Flush skin with large amounts of water for at least 15 minutes while removing contaminated clothing. Wash the affected area with soap and water and continue rinsing. Wash contaminated clothing and shoes thoroughly before reuse. If irritation persists, seek medical attention.
Eye Contact:	Immediately flush eyes with large amounts of water or saline solution for at least 15 minutes, occasionally lifting the upper and lower lids. Remove contact lenses, if present and easy to do, after first 2 minutes and continue rinsing. If irritation persists, seek medical advice, preferable from an ophthalmologist.
Ingestion:	Rinse mouth with water if the victim is conscious. Remove dentures, if present. DO NOT induce vomiting unless directed to do so by medical personnel. Vomiting may occur spontaneously. To prevent aspiration of material into the lungs, lay the victim on one side with the head lower than the waist. Never give anything by mouth to an unconscious or convulsing person. Do not leave the victim unattended. Seek immediate medical attention or call a poison control center.

Flammability: Flammable liquid, but will not sustain combustion.

Flash Point Method: Closed Cup.

Extinguishing Media:
Carbon dioxide, dry chemical powder, or appropriate foam.

Fire Fighting Procedures:
Evacuate all unnecessary personnel. Shut down motors, pumps, electrical service, and eliminate sources of ignition. Use water spray to cool containers and avoid pressure build-up. Wear self-contained breathing apparatus and full protective clothing.

Fire and Explosion Hazard:
Flammable Liquid. Over-heated containers may rupture.

Sensitivity of Static Charge:
Electrostatic charge may build up during handling. Grounding of equipment is recommended.

Personal precautions, protective equipment, and emergency procedures:

Evacuate non-essential personnel. Ventilate the area. Remove all sources of ignition. Wear appropriate protective clothing and equipment designated in Section 8.

Environmental Precautions:

Contain liquids and prevent discharge into streams and sewers, control or stop the loss of volatile material to the atmosphere. Do not apply water to the spill. Spills should be reported, if required, to the appropriate local, state, or federal agencies.

Methods and materials for containment and cleaning up:

Clean up spills immediately. Cover drains and contain spill. Cover spill with a large quantity of inert absorbent. Do not use combustible material such as sawdust. Collect material using non-sparking tools and place into an approved container(s) for proper disposal. Observe possible material restrictions. Do not

allow material or runoff from rinsing contaminated areas to enter floor drains or storm drains and ditches that lead to waterways. Dispose of via a licensed waste disposal contractor.

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HANDLING AND STORAGE

Handling Precautions:

Avoid breathing fumes.
Avoid bodily contact with material.
Wear appropriate personal protective equipment (PPE).
Wash thoroughly after handling.
Keep away from heat, sparks, pilot lights, welding operations, and open flames.
Flammable vapors may form explosive mixtures in air.
Do not eat, drink, or smoke in areas where this material is used.
Do not get in eyes, clothing, or on skin.
Ground all equipment and use non-sparking tools.

Isolate, vent, drain, wash and purge systems or equipment before maintenance or repair.
Clean spills immediately.

Avoid vapor formations and use with adequate ventilation. Vapors are heavier than air and will tend to collect in low areas. Avoid use in confined spaces. Areas of poor ventilation could contain concentrations high enough to cause unconsciousness and death. Use approved air respirator following manufacturer's recommendations where vapors may be generated.

Storage Requirements:

Keep container properly closed and properly labeled. Store in accordance with local regulations. Store in dry, cool, and well-ventilated areas. Do not store in temperatures below 50F or above 77F. Keep away from incompatible materials, food, and drink. Keep away from heat and ignition sources. Avoid excessive aging. Transfer only to approved containers having correct labeling. Keep containers tightly closed when not in use. Protect containers against physical damage. Containers that have been opened must be carefully resealed and kept upright to prevent spillage. Containers are hazardous when empty as they contain product residues. Do not allow cross-contamination, and keep away from incompatible materials. Use appropriate containment to avoid environmental contamination. Vent periodically, if needed, to release head pressure. Ventilate enclosed areas. Avoid shock and friction. Avoid freezing. Keep out of reach of children.

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EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Use adequate ventilation. Local exhaust is preferable.

Personal Protective Equipment:

Wear protective clothing to prevent repeated or prolonged contact with product. Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of hazardous substances handled. The chemical resistance of the protective equipment should be obtained from the representative supplier.

US OSHA PEL Carbon Black: 3.5 mg/m³, TWA

US OSHA PEL Titanium Dioxide: 15 mg/m³, TWA

US OSHA PEL 2-butanol: 450 mg/m³, TWA

Hygiene measures:

Facilities storing or using this material should be equipped with an eyewash station and safety shower. Change contaminated clothing. Preventive skin protection is recommended. Wash hands thoroughly after use, before eating, drinking, smoking, or using the restroom.

Eye/Face protection:

Wear safety glasses with unperforated side shields or protective splash goggles during use.

Hand protection:

Wear gloves recommended by glove supplier for protection against materials in Section 3. Gloves should be impermeable to chemicals and oil. Breakthrough time of selected gloves must be greater than the intended use period.

Skin protection:

Wear protective clothing. Wear protective boots if the situation requires.

Respiratory protection:

Always use an approved respirator when vapor/aerosols are generated. Where risk assessment shows air-purifying respirators are appropriate use a full-faced respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Follow OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149.

Environmental exposure controls:

Do not empty into drains.

PPE must not be considered a long-term solution to exposure control. PPE usage must be accompanied by employer programs to properly select, maintain, clean, fit, and use. Consult a competent industrial hygiene resource to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

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PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Colored or clear liquid coating.

Physical State:	Viscous Liquid.
Odor Threshold:	Not available.
Particle Size:	Not available.
Spec Grav./Density:	Varies with color: ~1.4.
Viscosity:	5-500 Cp
Saturated Vapor Concentration:	Not available.
Boiling Point:	138.6°C (281.48°F)
Flammability:	Will burn under fire conditions but will not sustain combustion.
Partition Coefficient:	Not available.
Vapor Pressure:	Not available.
pH:	NA, Non-aqueous.
Evap. Rate:	Not available.
Molecular weight:	Not available.
Decomp Temp:	Not available.

Odor:	Solvent-like.
Molecular Formula:	Not available.
Solubility:	Not available.
Softening Point:	Not available.
Percent Volatile:	Not available.
Heat Value:	Not available.
Freezing/Melting Pt.:	Not available.
Flash Point:	42.8°C (109.04°F) 42.8°C (109.04°F)
Octanol:	Not available.
Vapor Density:	6.2 (Air=1)
VOC:	Exempt.
Bulk Density:	Not available.
Auto-Ignition Temp:	>500°C (932°F)
UFL/LFL:	Not available.

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STABILITY AND REACTIVITY

Chemical Stability:	Stable.
Conditions to Avoid:	Extreme temperatures, moisture, vapor formation and sources of ignition.
Materials to Avoid:	Strong oxidizing agents, strong acids, water and alkalines.
Hazardous Decomposition:	Chlorine-containing gases, fluorine-containing gases may be produced in products containing p-chlorobenzotrifluoride. Carbon dioxide and silicon oxides may be produced from all coating formulations.
Hazardous Polymerization:	Will not occur.

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TOXICOLOGICAL INFORMATION**General Information:**

Acute oral toxicity: Low toxicity, LD50 > 2000 mg/kg
 Acute dermal toxicity: Low toxicity, LD50 > 2000 mg/kg

May contain < 20 wt% Cr(III) oxide-based pigments.

Toxicity information for chromium (III) oxide-based pigments:

Acute toxicity (Oral LD50) >/- 5.41 mg/l (dust/mist).

Carcinogenic Effects:

NTP: Not Listed.

ACGIH: A4 - Not classifiable for human or animal.

IARC: 3 - Not classifiable for human.

OSHA: Not Listed.

NOTE: NTP, IARC and ACGIH found that "there is sufficient evidence for the carcinogenicity of chromium and certain chromium compounds both in humans and experimental animals." The chromium compounds that are considered carcinogenic are hexavalent chromium compounds [Cr(VI)]. The chromium oxide-based pigments present in the NIC products listed above are all trivalent, refractory chromium compounds [Cr(III)], each containing 1ppm or less of leachable hexavalent chromium (</- 0.0001%). The toxicity information stated above are for Cr(III) oxide-based C.I. Pigments as stated in SDS's provided by the pigment suppliers.

Mutagenic Effects:

Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. May cause damage to the following organs: upper-respiratory tract, skin.

REGULATION: US, IARC Monographs on occupational exposures to chemical agents.

REMARKS:

U.S. IARC Monographs on Occupational Exposures to Chemical Agents: Not classified by the International Agency for Research on Cancer (IARC).

SENSITIZATION: May cause skin sensitization.

POTENTIAL HEALTH EFFECTS:

Inhalation: Not expected to be a relevant route of exposure under proper engineering controls; however, under conditions where exposure to vapors or mists is possible, could cause respiratory tract irritation.

Skin: May be irritating to the skin. May cause skin sensitization.

Eyes: May be mildly irritating to the eyes.

Ingestion: Not likely to be a relevant route of exposure.

12 ECOLOGICAL INFORMATION

Ecotoxicity Effects:

Toxicity to fish: Acute LC 50 1.3 mg/l Fish 96h
203 Fish, Acute Toxicity Test.
Acute LC 50 > 11 mg/l Aquatic plants/Algae 72h

Ceramic and/or metallic pigments and colorants:

Oral LD50, rat: 200-2000 mg/kg
Skin irritation, rabbit; severe erythema with signs of necrosis after 1-hour exposure.

13 DISPOSAL CONSIDERATIONS

The generation of waste should be avoided or minimized whenever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spill material and runoff contact with soil, waterways, drains and sewers.

14 TRANSPORT INFORMATION

Note: Transportation information provided is for reference only. The customer is urged to consult 49 CFR 100 - 177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

US DOT: Not Regulated for Transport
IATA: Not Regulated for Transport
ICAO: Not Regulated for Transport

This Safety Data Sheet (SDS) lists a flash point of 43°C, which stems from the presence of parachlorobenzotrifluoride (PCBTF) in the product. While a flash point of 43°C would normally classify the product as a Class 3 Flammable Liquid, this product does not need to be regulated for purposes of transportation due to the fact that PCBTF does not sustain combustion. Per 173.120(a)(3) of the Hazardous Materials Regulations, liquids with a flash point greater than 35°C that do not sustain combustion according to ASTM D 4206 do not meet the definition of a Class 3 Flammable Liquid. Additionally, International Air Transport Association (IATA) Dangerous Goods Regulations section 3.3.1.3(a) states that liquids which do not sustain combustion "need not be considered as flammable" if the liquid has "passed a suitable test for combustibility" as prescribed by the UN Manual of Tests and Criteria, Part III, subsection 32.5.2. ASTM D 4206 standards are identical to the UN Manual Standards; it is thus considered to be a suitable test for combustibility. For the aforementioned reasons, Cerakote Elite Series is considered not regulated for purposes of transportation.

15 REGULATORY INFORMATION

[%] RQ (CAS#) Substance - Reg Codes

[60-80%] p-chlorobenzotrifluoride (98-56-6) PROP65, TSCA

[0-30%] Trade Secret (*****) TSCA

[0-5%] 2-Butanol (78-92-2) MASS, NJHS, OSHAWAC, PA, SARA313, TSCA, TXAIR

[0-10%] Carbon black (1333-86-4) MASS, OSHAWAC, PA, PROP65, TSCA, TXAIR

[10-30%] Trade Secret (*****) MASS, OSHAWAC, PA, TSCA, TXAIR

[10-30%] Trade Secret (*****) TSCA

[0-30%] Trade Secret (*****) TSCA

[1-5%] Trade Secret (*****)

[0-10%] Titanium dioxide (13463-67-7) MASS, OSHAWAC, PA, TSCA, TXAIR

[0-15%] Trade Secret (*****) GADSL, MASS, PA, REACH, TSCA



WARNING

This product can expose you to chemicals including PCBTF Oxsol (parachlorobenzotrifluoride), and Carbon black (airborne, unbound particles of respirable size), which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Regulatory Code Legend

- PROP65 = CA Prop 65
- TSCA = Toxic Substances Control Act
- MASS = MA Massachusetts Hazardous Substances List
- NJHS = NJ Right-to-Know Hazardous Substances
- OSHA WAC = OSHA Workplace Air Contaminants
- PA = PA Right-To-Know List of Hazardous Substances
- SARA313 = SARA 313 Title III Toxic Chemicals
- TXAIR = TX Air Contaminants with Health Effects Screening Level
- GADSL = Global Automotive Declarable Substance List (GADSL)
- REACH = REACH List of Substances of Very High Concern (RSL)

U.S. TOXIC SUBSTANCES CONTROL ACT: All components of this product are on the TSCA Inventory or are exempt from the TSCA Inventory requirements under 40 CFR 720.30.

RoHS-2: NIC Industries, Inc. products comply with the EU RoHS-2 Directive and Ammendments, including 2006/122/EC.

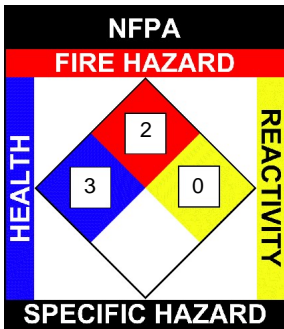
REACH: NIC Industries, Inc. products comply with the EU REACH Regulation EC No. 1907/2006.

TSE/BSE: NIC Industries, Inc. products comply with European Parliament and Council Regulations (EC) No. 999/2001.

Conflict Minerals: No NIC Industries, Inc. Products contain any "conflict minerals" as defined in Section 1502 of the Dodd-Frank Act.

16 OTHER INFORMATION

NFPA: Health = 3, Fire = 2, Reactivity = 0, Specific Hazard = n/a



These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.,

U.S. Federal Regulations:

OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of hazard communication program including labeling, material safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Material Safety Data Sheet available to all your employees.

NON-WARRANTY: The information presented in this publication is based upon the research and experience of NIC Industries, Inc. No representation or warranty is made, however, concerning the accuracy or completeness of express or

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