



Safety Data Sheet

SHIELD 2020 PART B

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PRODUCT AND COMPANY IDENTIFICATION

Supplier Details: Shield Industrial Coatings
25702 Aldine Westfield Rd, Suite 1055
Spring, TX 77373

Phone: 281-800-2020

Web: www.shieldindustrialcoatings.com

Emergency: CHEMTREC 800-424-9300 (24 HOUR SERVICE)

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HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

GHS Classification in Accordance with 29 CFR 1910 (OSHA HCS):

Health, Serious Eye Damage/Eye Irritation, 1
Health, Skin corrosion/irritation, 1 C
Health, Specific target organ toxicity - Single exposure, 3
Health, Acute toxicity, 5 Inhalation
Health, Acute toxicity, 5 Oral
Environmental, Hazards to the aquatic environment - Acute, 3
Environmental, Hazards to the aquatic environment - Chronic, 3

GHS Label Elements, Including Precautionary Statements

GHS Signal Word: **DANGER**

GHS Hazard Pictograms:



GHS Hazard Statements:

H318 - Causes serious eye damage
H314 - Causes severe skin burns and eye damage
H336 - May cause drowsiness or dizziness
H333 - May be harmful if inhaled
H303 - May be harmful if swallowed
H402 - Harmful to aquatic life
H412 - Harmful to aquatic life with long lasting effects

GHS Precautionary Statements:

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P281 - Use personal protective equipment as required.
P301+312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+352 - IF ON SKIN: Wash with soap and water.
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P305+351+338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

- P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
 P330 - Rinse mouth.
 P362 - Take off contaminated clothing and wash before reuse.
 P370+378 - In case of fire: Use dry chemical, foam, carbon dioxide or water for extinction.
 P403+233 - Store in a well ventilated place. Keep container tightly closed.
 P403+235 - Store in a well ventilated place. Keep cool.
 P405 - Store locked up.
 P501 - Dispose of contents/container to a licensed waste disposal facility.

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

- Route of Entry:** Eyes; Ingestion; Inhalation; Skin;
Target Organs: Respiratory system; Skin; Eyes; Lungs;
Inhalation: Heating, spraying, foaming, or otherwise mechanically dispersing (drumming, venting or pumping) operations of this blend may generate more vapor or aerosol concentrations of its components. Amines can produce severe respiratory tract irritation. This will be experienced as a discomfort in the nose, throat and chest, with nasal discharge, cough, headache and difficulty with breathing. Prolonged or repeated contact may result in lung damage.
Skin Contact: Prolonged contact may lead to burning associated with severe reddening, swelling, and possible tissue destruction.
Eye Contact: Will cause irritation on contact. Symptoms from amine exposure include watering or discomfort of the eyes with marked excess redness and swelling. Severe exposure could produce chemical burns of the cornea.
Ingestion: Amines can cause severe irritation and possible chemical burns of the mouth, throat, esophagus and stomach with pain or discomfort in the mouth, throat, chest and abdomen. Symptoms include, nausea, vomiting, diarrhea, dizziness, thirst, circulatory collapse and coma. Aspiration may occur during swallowing or vomiting, resulting in lung damage

3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Ingredients			
CAS#	%	Chemical Name	
0	45-50%	Proprietary polyol blend	
1333-86-4	0-1%	Carbon black	
9046-10-0	30-50%	Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)-	
68479-98-1	5-25%	Benzenediamine, ar,ar-diethyl-ar-methyl-	
1318-02-1	1-5%	Zeolites other than erionite (clinoptilolite, phillipsite, mordenite, non-fibrous Japanese zeolite, synthetic zeolites)	

4 FIRST AID MEASURES

- Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility immediately.
Skin Contact: Remove contaminated clothing immediately. Wash with large quantities of soap and water. Wash clothing before reuse. Seek medical attention if redness, burning or an itching sensation develops or persists after the area is washed.
Eye Contact: Flush eyes with plenty of water for at least 15 minutes. Use fingers to assure that the eyelids are separated and that the eye is being irrigated. Consult a physician.
Ingestion: Seek immediate medical attention. Immediately give two glasses of water. Do not induce vomiting unless prompted to do so by a medical professional. Never give anything by mouth to an unconscious person.

5 FIRE FIGHTING MEASURES

Flammability: OSHA - none; DOT - none

Flash Point:	>359°F
Flash Point Method:	Pensky-Martens closed cup (ASTM D-93)
Burning Rate:	N/A
Autoignition Temp:	NDA
LEL:	N/A
UEL:	N/A

Use dry chemical, foam, carbon dioxide, halogenated agents or water. Use cold water spray to cool fire-exposed containers to minimize risk of rupture. A solid stream of water directed into the hot burning liquid could cause frothing. If possible, contain fire run-off water.

Protective Equipment: Positive-pressure self-contained breathing apparatus with full face-piece and full protective clothing should be worn by fire-fighters.

Combustion may produce carbon dioxide, carbon monoxide, nitrogen oxides, and ammonia.

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ACCIDENTAL RELEASE MEASURES

Spill: Isolate and confine spill area. Remove all sources of ignition sources like flames, heating elements, gas engines, etc. Use non-sparking tools. Emergency clean-up personnel should select the specific respirator based on contamination levels found. Use air purifying respirator equipped with full-face organic vapor cartridge if vapors are detected, or are irritating. In areas of high concentrations, fresh air-line respirators or self-contained breathing apparatus and protective clothing should be used. Prevent spreading and contamination of surface waters and drinking supplies. Notify local health officials and other appropriate agencies if such contamination should occur.

Clean up: With adequate ventilation and appropriate personal protective equipment, cover the area with an inert absorbent material such as clay or vermiculite and transfer to steel waste containers. Ventilate area to remove the remaining vapors.

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HANDLING AND STORAGE

Handling Precautions: Handling: Avoid skin and eye contact. Use personal protective equipment when transferring material to or from drums, totes or other containers. If contamination with isocyanates is suspected, do not reseal containers. Do not smoke or use naked lights, open flames, space heaters, or other ignition sources near pouring, frothing or spraying operations
Special Emphasis for Spray Applications of Mixed Products Containing Isocyanates: Inspect the application area from the potential to expose other persons or for overspray to drift onto buildings, vehicles or other property. When spraying building exteriors, persons entering or exiting the building as well as those inside could be exposed to polyisocyanates due to wind conditions, open windows or air intakes. Do not begin application work until these potential problems have been corrected.

Storage Requirements: Storage: When stored between 15° and 30°C (60° and 85°F) in sealed containers, typical shelf life is 6 months or more from the date of manufacture. Consult technical data sheet for shelf life requirements affecting performance quality. Opened containers must be handled properly to prevent moisture pickup.

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EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: General/local ventilation typically control vapor levels very adequately. Uses requiring heating or spraying may require more ventilation or PPE.

Personal Protective Equipment: HMIS PP, X | Consult your supervisor for special instructions

Personal protective equipment

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full contact Material: Nitrile rubber Minimum

layer thickness: 0.11 mm Break through time: 480 min Material tested: Dermatril (KCL 740 / Aldrich Z677272, Size M) Splash contact data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection: Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection: Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Carbon black (1333-86-4) [0-1%]

Components with workplace control parameters

TWA 3.5 mg/m3 USA. ACGIH Threshold Limit Values (TLV)

Not classifiable as a human carcinogen

TWA 3.5 mg/m3 USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000

TWA 3.5 mg/m3 USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

TWA 3.5 mg/m3 USA. NIOSH Recommended Exposure Limits

TWA 0.1 mg/m3 USA. NIOSH Recommended Exposure Limits

Potential Occupational Carcinogen

Carbon black in presence of polycyclic aromatic hydrocarbons (PAHs)

See Appendix C

See Appendix A

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)- (9046-10-0) [30-50%] : no data available

Zeolites other than erionite (clinoptilolite, phillipsite, mordenite, non-fibrous Japanese zeolite, synthetic zeolites) (1318-02-1) [1-5%] : no data available

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PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Pigmented liquid.

Physical State: Liquid

Spec Grav./Density: N/A

Viscosity: Not determined

Boiling Point: >500°F

Flammability: None

Vapor Pressure: 0.9 mmHG @ 68°F

Evap. Rate: <1

Odor: ammonia-like

Molecular Formula: N/A

Solubility: Not determined

Percent Volatile: 0

Freezing/Melting Pt.: Not determined

Flash Point: >359°F

Vapor Density: not determined

Auto-Ignition Temp: NDA

Chemical Stability:	Product is stable under normal conditions.
Conditions to Avoid:	No specific data
Materials to Avoid:	No specific data
Hazardous Decomposition:	Under normal storage conditions hazardous decomposition products should not be produced.
Hazardous Polymerization:	Will not occur.

Carbon black (1333-86-4) [0-1%]

Information on toxicological effects

Acute toxicity:

LD50 Oral - rat - male and female - > 8,000 mg/kg (OECD Test Guideline 401)

Inhalation: no data available

LD50 Dermal - rabbit - > 3,000 mg/kg

Skin corrosion/irritation: Skin - rabbit Result: No skin irritation - 24 h (OECD Test Guideline 404)

Serious eye damage/eye irritation: Eyes - rabbit Result: No eye irritation (OECD Test Guideline 405)

Respiratory or skin sensitisation: - guinea pig Result: Did not cause sensitisation on laboratory animals. (OECD Test Guideline 406)

Germ cell mutagenicity: Ames test S. typhimurium Result: negative

Hamster ovary

DNA repair rat - female

Carcinogenicity:

Carcinogenicity - rat - Inhalation:

Tumorigenic: Carcinogenic by RTECS criteria. Lungs, Thorax, or Respiration: Tumors.

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Limited evidence of carcinogenicity in animal studies

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Carbon black)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Specific target organ toxicity - single exposure: no data available

Specific target organ toxicity - repeated exposure: no data available

Aspiration hazard: no data available

Additional Information:

RTECS: FF5800000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)- (9046-10-0) [30-50%]

Information on toxicological effects

Acute toxicity:

Oral LD50 LD50 Oral - rat - 2,885.3 mg/kg

Inhalation LC50 LC50 Inhalation - rat - 8 h - > 0.74 mg/l

Dermal LD50 LD50 Dermal - rabbit - 2,980 mg/kg

Other information on acute toxicity no data available

Skin corrosion/irritation: Skin - rabbit - Corrosive, category 1C - where responses occur after exposures between 1 hour and 4 hours and observations up to 14 days. - OECD Test Guideline 404

Serious eye damage/eye irritation: Eyes - rabbit - Corrosive to eyes - OECD Test Guideline 405

Respiratory or skin sensitisation: no data available

Germ cell mutagenicity: Animal testing did not show any mutagenic effects

Genotoxicity in vitro - Not mutagenic in Ames Test.

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Teratogenicit

Specific target organ toxicity - single exposure (Globally Harmonized System):
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System):
no data available
Aspiration hazard

Potential health effects: Inhalation May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Ingestion May be harmful if swallowed. Skin May be harmful if absorbed through skin. Causes skin burns. Eyes Causes eye burns.

Signs and Symptoms of Exposure: Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea

Synergistic effects: no data available

Additional Informatio

Repeated dose toxicity - rat - Dermal - No observed adverse effect level - 250 mg/kg

Repeated dose toxicity - rat - Oral - No observed adverse effect level - 239 mg/kg RTECS: Not available

Zeolites other than erionite (clinoptilolite, phillipsite, mordenite, non-fibrous Japanese zeolite, synthetic zeolites) (1318-02-1) [1-5%]

Information on toxicological effects

Acute toxicity:

Oral LD50 LD50 Oral - rat - > 10,000 mg/kg

Inhalation LC50 Dermal LD50 LD50 Dermal - rabbit - > 2,000 mg/kg

Other information on acute toxicity no data available

Skin corrosion/irritation: Skin - Human - No skin irritation

Serious eye damage/eye irritation: Eyes - rabbit - No eye irritation

Respiratory or skin sensitization: no data available

Germ cell mutagenicity: Genotoxicity in vitro - Human - lymphocyte Cytogenetic analysis

Genotoxicity in vivo - mouse - Intraperitoneal

Carcinogenicity:

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Zeolites crystalline aluminosilicates, composed of silica (SiO₂) and alumina (Al₂O₃), in various proportions plus metallic oxides. Pr)

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Teratogenicity: no data available

Specific target organ toxicity - single exposure (Globally Harmonized System):

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure (Globally Harmonized System):
no data available

Aspiration hazard: no data available

Potential health effects: Inhalation May be harmful if inhaled. Causes respiratory tract irritation. Ingestion May be harmful if swallowed. Skin May be harmful if absorbed through skin. Causes skin irritation. Eyes Causes eye irritation.

Signs and Symptoms of Exposure: prolonged or repeated exposure can cause:, Damage to the lungs. Cough, Difficulty in breathing, Gastrointestinal disturbance, prolonged or repeated exposure can cause:, Damage to the lungs., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects: no data available

Additional Information:

RTECS: ZG6800000

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ECOLOGICAL INFORMATION

Carbon black (1333-86-4) [0-1%]

Information on ecological effects

Toxicity:

Toxicity to fish LC50 - Danio rerio (zebra fish) - > 1,000 mg/l - 96 h.

Toxicity to daphnia and static test EC50 - Daphnia magna (Water flea) - > 5,600 mg/l - 24 h.

other aquatic (OECD Test Guideline 202) invertebrates

Toxicity to algae static test EC50 - Desmodesmus subspicatus (green algae) - > 10,000 mg/l -
72 h (OECD Test Guideline 201)

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects: no data available

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)- (9046-10-0) [30-50%]

Information on ecological effects

Toxicity:

Toxicity to fish semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - > 15 mg/l - 96 h.

static test NOEC - Oncorhynchus mykiss (rainbow trout) - 15 mg/l - 96 h

Toxicity to daphnia static test EC50 - Daphnia - 80 mg/l - 48 h.

and other aquatic Method: OECD Test Guideline 202 invertebrates

NOEC - Daphnia - 18 mg/l - 48 h

Persistence and degradability: Biodegradability Result: 0 % - According to the results of tests of biodegradability this product is not readily biodegradable. Method: OECD Test Guideline 301B

Bioaccumulative potential: no data available

Mobility in soil: no data available

PBT and vPvB assessment: no data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life with long lasting effects.

Zeolites other than erionite (clinoptilolite, phillipsite, mordenite, non-fibrous Japanese zeolite, synthetic zeolites) (1318-02-1) [1-5%]

Information on ecological effects

Toxicity:

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

PBT and vPvB assessment: no data available

Other adverse effects: no data available

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DISPOSAL CONSIDERATIONS

Disposal: Any disposal practice must be in compliance with all federal, state and local laws and regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Waste characterization and disposal compliance are the responsibility solely of the party generating the waste or deciding to discard or dispose of the material.

Do not allow material to enter sewers, a body of water, or contact the ground. Refer to RCRA 40 CFR 261, and/or any other appropriate federal, state or local requirements for proper classification information.

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TRANSPORT INFORMATION

Non DOT/RCRA regulated

IATA/IMDG/ICAO - Not dangerous goods

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REGULATORY INFORMATION

Component (CAS#) [%] - CODES

Carbon black (1333-86-4) [0-1%] IARC, MASS, OSHAWAC, PA, TSCA, TXAIR

Poly[oxy(methyl-1,2-ethanediy)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)- (9046-10-0) [30-50%] TSCA

Benzenediamine, ar,ar-diethyl-ar-methyl- (68479-98-1) [5-25%] TSCA

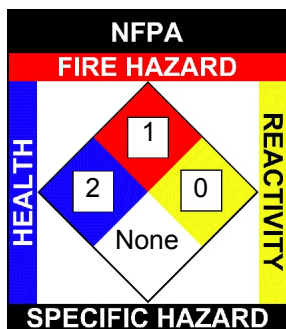
Zeolites other than erionite (clinoptilolite, phillipsite, mordenite, non-fibrous Japanese zeolite, synthetic zeolites) (1318-02-1) [1-5%] IARC

Regulatory CODE Descriptions

IARC = IARC Carcinogen Risks
 MASS = MA Massachusetts Hazardous Substances List
 OSHAWAC = OSHA Workplace Air Contaminants
 PA = PA Right-To-Know List of Hazardous Substances
 TSCA = Toxic Substances Control Act
 TXAIR = TX Air Contaminants with Health Effects Screening Level

16	OTHER INFORMATION
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NFPA: Health = 2, Fire = 1, Reactivity = 0, Specific Hazard = None
HMIS III: Health = 2, Fire = 1, Physical Hazard = 0
HMIS PPE: X - Consult your supervisor for special instructions



HMIS	
HEALTH	□ 2
FLAMMABILITY	□ 1
PHYSICAL HAZARD	□ 0
PERSONAL PROTECTION	□ X

Disclaimer:

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).