



Safety Data Sheet

Material Name: HYDROSHIELD 451 BRUSH-ON

SDS ID: 00228344

*** Section 1 - PRODUCT AND COMPANY IDENTIFICATION ***

Manufacturer Information

KOPPERS INC.
436 Seventh Avenue
Pittsburgh, PA 15219-1800
Mfg Contact: 412-227-2001 (SDS Requests: 866-852-5239)

CHEMTREC: 800-424-9300 (Outside USA: +1 703-527-3887)
Emergencies: (Medical in USA): 877-737-9047
Emergencies: (Medical Outside of USA): 651-632-9269
Email: naorgmsds@koppers.com

Product Identifier: HYDROSHIELD 451 BRUSH-ON

Product Use

building/roofing/waterproofing product

*** Section 2 - HAZARDS IDENTIFICATION ***

EMERGENCY OVERVIEW

Physical Form: viscous liquid

Color: black

Odor: petroleum odor

Signal Word: WARNING!

Major Health Hazards: central nervous system depression, skin tumors

Physical Hazards: Combustible liquid and vapor.

Precautionary Statements: Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Keep container tightly closed. Use only with adequate ventilation. Wash thoroughly after handling. Observe good hygiene and safety practices when handling this product. Do not use this product until the MSDS has been read and understood.

POTENTIAL HEALTH EFFECTS

Inhalation

Short Term: irritation, nausea, central nervous system effects, headache, drowsiness, dizziness, disorientation, tremors

Long Term: visual disturbances, kidney effects

Skin

Short Term: irritation, defatting agent, absorption may occur, central nervous system effects, headache, drowsiness, dizziness, loss of coordination

Long Term: irritation, skin tumors

Eye

Short Term: irritation

Long Term: irritation

Ingestion

Short Term: irritation, nausea, vomiting, diarrhea, central nervous system effects, headache, drowsiness, dizziness, loss of coordination

Long Term: no information on significant adverse effects

*** Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS ***

CAS	Component	Percent (weight)
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8052-42-4	ASPHALT	61 - 67
64742-88-7	MEDIUM ALIPHATIC SOLVENT NAPHTHA	28 - 34
9004-34-6	CELLULOSE	2 - 4
1302-78-9	BENTONITE	1.5 - 2.5
68479-04-9	1,3-PROPANEDIAMINE, N-(3-(TRIDECYLOXY) PROPYL)-, BRANCHED	0.05 - 0.15
14808-60-7	QUARTZ	<0.02

*** Section 4 - FIRST AID MEASURES ***

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Skin

Wash skin with soap and water for at least 15 minutes, or use a waterless handcleaner, while removing contaminated clothing and shoes. Get immediate medical attention, if needed.

Eyes

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion

Do not give anything by mouth to unconscious or convulsive person. If vomiting occurs, keep head lower than hips to help prevent aspiration. Get medical attention, if needed.

*** Section 5 - FIRE FIGHTING MEASURES ***

See Section 9 for Flammability Properties

NFPA Ratings: Health= 1 Fire= 2 Reactivity= 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Flammable Properties

Vapor/air mixtures are explosive above flash point. The vapor is heavier than air. Empty containers may retain product residue including flammable/explosive vapors.

Sensitivity to Mechanical Impact

Not available

Sensitivity to Static Discharge

Yes

Extinguishing Media

carbon dioxide, regular dry chemical, regular foam, water spray

Protective Equipment and Precautions for Firefighters

Full fire fighting turn-out gear (bunker gear).

Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Directly spraying water or foam onto hot burning product may cause frothing. Avoid inhalation of material or combustion by-products.

*** Section 6 - ACCIDENTAL RELEASE MEASURES ***

Water Release

Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.

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Occupational Spill / Release

Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. **Small spills:** Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal.

* * * Section 7 - HANDLING AND STORAGE * * *

Handling Procedures

Avoid breathing vapors or fumes. Avoid contact with eyes, skin and clothing. Wash exposed areas thoroughly with soap and water, or a waterless handcleaner, after skin contact and before eating, drinking, using tobacco products, or restrooms.

Storage Procedures

Store and handle in accordance with all current regulations and standards. Keep away from heat, sparks and flame. Store in a cool, dry place. Store in a well-ventilated area. Label all containers. Keep separated from incompatible substances.

* * * Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION * * *

Exposure Guidelines

The particulates in this mixture are embedded within the substrate and should not pose a respirable dust hazard during standard application and product use. If conditions other than intended use result in the creation of particulate material, see applicable exposure limits.

Exposure of asphalt to elevated temperatures during storage and/or product use may release hydrogen sulfide gas, see applicable exposure limits.

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Component Exposure Limits

ASPHALT (8052-42-4)

ACGIH: 0.5 mg/m³ TWA (as benzene soluble aerosol, fume, inhalable fraction)

NIOSH: 5 mg/m³ Ceiling (fume, 15 min)

Mexico: 5 mg/m³ TWA LMPE-PPT
10 mg/m³ STEL [LMPE-CT]

CELLULOSE (9004-34-6)

OSHA (US): 15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)

ACGIH: 10 mg/m³ TWA

NIOSH: 10 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable dust)

Mexico: 10 mg/m³ TWA LMPE-PPT
20 mg/m³ STEL [LMPE-CT]

QUARTZ (14808-60-7)

OSHA (US): (30)/(%SiO₂ + 2) mg/m³ TWA, total dust; (250)/(%SiO₂ + 5) mppcf TWA, respirable fraction;
(10)/(%SiO₂ + 2) mg/m³ TWA, respirable fraction

ACGIH: 0.025 mg/m³ TWA (respirable fraction)

NIOSH: 0.05 mg/m³ TWA (respirable dust)

Mexico: 0.1 mg/m³ TWA LMPE-PPT (respirable fraction)

Exposure Limits for chemicals which may be generated during processing or at elevated temperatures

HYDROGEN SULFIDE (7783-06-4)

OSHA: 20 ppm Ceiling
50 ppm Peak (10 minutes once, only if no other measurable exposure occurs)

ACGIH: 1 ppm TWA
5 ppm STEL

NIOSH: 10 ppm Ceiling (10 min); 15 mg/m³ Ceiling (10 min)

Mexico: 10 ppm TWA LMPE-PPT; 14 mg/m³ TWA LMPE-PPT
15 ppm STEL [LMPE-CT]; 21 mg/m³ STEL [LMPE-CT]

Ventilation

Ensure adequate ventilation. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eyes / Face

ANSI Z87.1-1989 approved safety glasses with side shields. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Protective Clothing

Wear appropriate clothing. Remove any chemical soaked clothing immediately.

Glove Recommendations

Wear appropriate gloves.

Protective Material Types

neoprene, nitrile butadiene rubber (NBR)

Respiratory Protection

If the applicable TLVs and/or PELs are exceeded, use canister or cartridge respirators, which are MSHA/NIOSH-approved, with organic vapor cartridges and high-efficiency particulate filters.

***** Section 9 - PHYSICAL AND CHEMICAL PROPERTIES *****

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Physical State: Liquid	Color: black
Physical Form: viscous liquid	Odor: petroleum odor
pH: Not applicable	Freezing / Melting Point: Not available
Boiling Point: 149 °C initial boiling point (component)	Flash Point: >=38 °C TCC (component)
Decomposition Temperature: Not available	Evaporation Rate: 70 ether=1 (component)
OSHA Flammability Class.: II	Lower Explosive Limit: 0.9 % (component)
Upper Explosive Limit: 6.7 % (component)	Vapor Pressure: 2.9 mmHg (component)
Vapor Density: 4.9 (component)	Specific Gravity (water=1): >1
Water Solubility: almost insoluble	Coefficient of Water/Oil Dist: Not available
Autoignition: Not available	Viscosity: >1000000 cP @ 25 °C
VOC: <=250 g/L	Volatility: Not available
Volatility by Volume: <30 %	

*** Section 10 - STABILITY AND REACTIVITY ***

Chemical Stability

Stable at normal temperatures and pressure.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat. Keep out of water supplies and sewers.

Materials to Avoid (Incompatibilities)

oxidizing materials

Decomposition Products

carbon monoxide, carbon dioxide, oxides of nitrogen, oxides of sulfur, hydrogen sulfide

Possibility of Hazardous Reactions

Will not polymerize.

*** Section 11 - TOXICOLOGICAL INFORMATION ***

Irritation / Corrosive Information

RTECS Irritation

The components of this material have been reviewed and RTECS publishes no applicable data as of the date on this document.

Local Effects

ASPHALT (8052-42-4)

Irritant: inhalation, skin, eye

MEDIUM ALIPHATIC SOLVENT NAPHTHA (64742-88-7)

Irritant: inhalation, skin, eye

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

ASPHALT (8052-42-4)

Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg

MEDIUM ALIPHATIC SOLVENT NAPHTHA (64742-88-7)

Inhalation LC50 Rat >5.28 mg/L 4 h; Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit 3000 mg/kg

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CELLULOSE (9004-34-6)

Inhalation LC50 Rat >5800 mg/m³ 4 h; Oral LD50 Rat >5 g/kg; Dermal LD50 Rabbit >2 g/kg

RTECS Acute Toxicity (selected)

The components of this material have been reviewed, and RTECS publishes the following endpoints:

ASPHALT (8052-42-4)

Inhalation: >94.4 mg/m³ Inhalation Rat LC50

Oral: >5000 mg/kg Oral Rat LD50

CELLULOSE (9004-34-6)

Inhalation: >5800 mg/m³/4 hour Inhalation Rat LC50

Oral: >5 gm/kg Oral Rat LD50

Skin: >2 gm/kg Skin Rabbit LD50

Acute Toxicity Level

MEDIUM ALIPHATIC SOLVENT NAPHTHA (64742-88-7)

Toxic: inhalation

Non Toxic: dermal absorption, ingestion

Carcinogenicity (Product)

OSHA: No NTP: No IARC: Yes (See below for additional information on component carcinogen status)

Component Carcinogenicity

ASPHALT (8052-42-4)

ACGIH: A4 - Not Classifiable as a Human Carcinogen (fume, coal tar-free)

NIOSH: potential occupational carcinogen (roofing asphalt fumes & asphalt-based paints)

IARC: Monograph 103 [in preparation]; Supplement 7 [1987] (extracts of steam-refined and air-refined);
Monograph 35 [1985] (Group 2B (possibly carcinogenic to humans))

QUARTZ (14808-60-7)

ACGIH: A2 - Suspected Human Carcinogen

NIOSH: potential occupational carcinogen

NTP: Known Human Carcinogen (respirable size) (Select Carcinogen)

IARC: Monograph 100C [2012]; Monograph 68 [1997] (Group 1 (carcinogenic to humans))

RTECS Tumorigenic

The components of this material have been reviewed, and RTECS publishes data for one or more components.

RTECS Mutagenic

The components of this material have been reviewed, and RTECS publishes data for one or more components.

RTECS Reproductive Effects

The components of this material have been reviewed, and RTECS publishes data for one or more components.

Target Organs (Product)

central nervous system, skin

Target Organs (Components)

MEDIUM ALIPHATIC SOLVENT NAPHTHA (64742-88-7)

central nervous system

Medical Conditions Aggravated by Exposure Based on Product and Component Information

respiratory disorders, skin disorders, central nervous system disorders (i.e. headache, drowsiness, dizziness, loss of coordination)

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Additional Information (Product)

IARC concluded that there is inadequate evidence that bitumens alone are carcinogenic to humans. The IARC monograph (Vol. 35) state that there is inadequate evidence for carcinogenicity of undiluted air-refined bitumens in animal studies; limited evidence for steam-refined and cracking-residue bitumens; and sufficient evidence for extracts of steam-refined and air-refined bitumen.

Studies of roofers indicated an excess of cancers. However, since roofers may be also exposed to other materials, the excess cancer risk cannot be attributed specifically to bitumens. No epidemiological study of workers exposed only to bitumens is available. A review of epidemiology studies of asphalt workers and roofers indicates that current human evidence is inadequate for the carcinogenicity of bitumen fumes in humans.

*** Section 12 - ECOLOGICAL INFORMATION ***

Component Analysis - Aquatic Toxicity

MEDIUM ALIPHATIC SOLVENT NAPHTHA (64742-88-7)

Fish: 96 Hr LC50 Pimephales promelas: 800 mg/L [static]

Algae: 96 Hr EC50 Pseudokirchneriella subcapitata: 450 mg/L

Invertebrate: 48 Hr EC50 Daphnia magna: >100 mg/L

BENTONITE (1302-78-9)

Fish: 96 Hr LC50 Salmo gairdneri: 8.0-19.0 g/L; 96 Hr LC50 Oncorhynchus mykiss: 19000 mg/L [static]

*** Section 13 - DISPOSAL CONSIDERATIONS ***

Disposal Methods

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.

Component Waste Numbers

There are no applicable U.S. EPA waste numbers for this product's components.

*** Section 14 - TRANSPORT INFORMATION ***

US DOT Information

Non-bulk package exemption applies.

TDG Information

Not regulated.

ICAO Information

No classification assigned.

IATA Information

No classification assigned.

*** Section 15 - REGULATORY INFORMATION ***

U.S. Federal Regulations

None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), TSCA 12(b), or require an OSHA process safety plan.

SARA 311/312 Hazardous Categories (40 CFR 370 Subparts B and C)

Acute Health: Yes Chronic Health: Yes Fire: Yes Pressure: No Reactive: No

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U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS#	CA	MA	MN	NJ	PA
ASPHALT	8052-42-4	Yes	Yes	Yes	Yes	Yes
MEDIUM ALIPHATIC SOLVENT NAPHTHA	64742-88-7	No	No	No	Yes	No
CELLULOSE	9004-34-6	No	Yes	Yes	Yes	Yes
QUARTZ	14808-60-7	No	Yes	Yes	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

Canadian Regulations

WHMIS Classification

B3, D2A.

WHMIS Ingredient Disclosure List

There are no components listed on the Ingredient Disclosure List.

Canada Inventory Information (Product)

All components of this product are listed on the DSL.

U.S. Inventory (TSCA) Information (Product)

Listed on inventory.

Inventory Status (Components)

Component Analysis - Inventory

Component	CAS#	US	CA
ASPHALT	8052-42-4	Yes	DSL
MEDIUM ALIPHATIC SOLVENT NAPHTHA	64742-88-7	Yes	DSL
CELLULOSE	9004-34-6	Yes	DSL
BENTONITE	1302-78-9	Yes	DSL
1,3-PROPANEDIAMINE, N-(3-(TRIDECYLOXY) PROPYL)-, BRANCHED	68479-04-9	Yes	DSL
QUARTZ	14808-60-7	Yes	DSL

* * * Section 16 - OTHER INFORMATION * * *

Summary of Changes

Updated: 3/28/12

MSDS SUMMARY OF CHANGES

SECTION 11 TOXICOLOGICAL INFORMATION

Review Date

3/28/12

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Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

Other Information

The information set forth in this Safety Data Sheet does not purport to be all-inclusive and should be used only as a guide. While the information and recommendations set forth herein are believed to be accurate, the company makes no warranty regarding such information and recommendations and disclaims all liability from reliance thereon.

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