

1. PRODUCT AND COMPANY IDENTIFICATION

Manufacturer

Titan Laboratories
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Product Name: A-1 Hardwater Stain Remover

Revision Date: January 1, 2019

Version: 2.1

SDS Number: 461

Common Name: Abrasive Cleaner

CAS Number: MIXTURE

Chemical Family: Cleaner

Chemical Formula: *** PROPRIETARY ***

Emergency Phone: +1-800-255-3924

2. HAZARDS IDENTIFICATION

NFPA:
HMIS III:



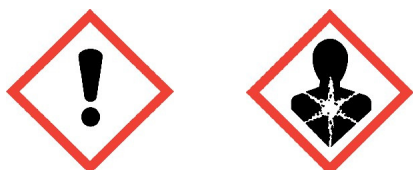
Health = 1, Fire = 0, Reactivity = 0
H*1/F0/PH0

| HMIS III | |
|---|---|
| HEALTH | 1 |
| FLAMMABILITY | 0 |
| PHYSICAL HAZARDS | 0 |
| PERSONAL PROTECTION C Safety Glasses, Gloves, Apron | |

| PERSONAL PROTECTION INDEX | | | |
|---------------------------|--|---|---|
| A | | G | |
| B | | H | |
| C | | I | |
| D | | J | |
| E | | K | |
| F | | X | Consult your supervisor or S.O.P. for "SPECIAL" handling directions |
| A | | n | |
| t | | o | |
| u | | p | |
| w | | q | |
| y | | r | |
| z | | s | |

GHS Signal Word:
WARNING

GHS Hazard Pictograms:



GHS Classifications:

Health, Acute toxicity, 4 Oral
Health, Aspiration hazard, 2

Health, Acute toxicity, 5 Dermal
Health, Skin corrosion/irritation, 2
Health, Respiratory or skin sensitization, 1 Skin
Health, Serious Eye Damage/Eye Irritation, 2 A
Health, Specific target organ toxicity - Single exposure, 3
Health, Carcinogenicity, 2

GHS Phrases:

H302 - Harmful if swallowed
H305 - May be harmful if swallowed and enters airways
H313 - May be harmful in contact with skin
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H351 - Suspected of causing cancer

GHS Precautionary Statements:

P233 - Keep container tightly closed.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P262 - Do not get in eyes, on skin, or on clothing.
P264 - Wash skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+361+353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
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 continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P321 - Specific treatment (see supplemental first aid instructions on this label).
P333+313 - If skin irritation or a rash occurs: Get medical advice/attention.
P337+313 - If eye irritation persists: Get medical advice/attention.
P361 - Remove/Take off immediately all contaminated clothing.
P363 - Wash contaminated clothing before reuse.
P403+235 - Store in a well ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

| CAS # | Percentage | Chemical Name |
|------------|------------|---|
| N/A | 30-35% | Proprietary, non-hazardous, non-regulated |
| 14808-60-7 | <30% | Silica, crystalline quartz |
| 64742-88-7 | <20% | Solvent naphtha, petroleum, medium aliph. |
| 544-60-5 | <5% | 9-Octadecenoic acid (9Z)-, ammonium salt |
| 110-91-8 | <5% | Morpholine |
| 68603-42-9 | <5% | Amides, coco, N,N-bis(hydroxyethyl) |
| None | 0-5% | Trade Secret* |

*The specific chemical identities of the ingredients of this mixture labeled as "Trade Secret" are considered to be proprietary and are withheld in accordance with the provisions of 29CFR1910.1200 Sect. (i) Trade Secrets.

4. FIRST AID MEASURES

Inhalation: Give oxygen or artificial respiration if needed. If symptoms develop, move victim to fresh air. If symptoms persist,

obtain medical attention.

Skin Contact: Take off contaminated clothing and shoes immediately. Promptly flush skin with water for at least 15 minutes to ensure all chemical is removed. If reddening develops and/or persists, obtain medical attention.

Eye Contact: Flush with large amounts of water for at least 15 minutes, lifting upper and lower lids occasionally. Remove contact lenses if present and easy to do so. Get immediate medical attention.

Ingestion: Rinse mouth with water. Do NOT induce vomiting unless instructed to do so. Material can enter lungs (aspiration hazard) during swallowing or vomiting resulting in lung inflammation or other lung injury. Never give anything by mouth to an unconscious person. Get immediate medical attention.

Most important symptoms and effects, both acute and delayed: The most important known symptoms and effects are described in the labelling (see Section 2) and/or Section 11. Inhalation of high concentrations of this material, as could occur in enclosed spaces or improper use, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material. The material has an aspiration hazard. This material has an aspiration hazard. Any potential danger from aspiration must be weighed against possible oral toxicity when determining whether to induce vomiting. Consider activated charcoal and/or gastric lavage. Any aspirated material may contain Silica, crystalline quartz, which may contribute to lung damage due to aspiration. Long term exposure can cause silicosis.

Indication of any immediate medical attention and special treatment needed: No data available.

5. FIRE FIGHTING MEASURES

| | |
|----------------------------|-------------------|
| Flammability: | DNA |
| Flash Point: | DNA |
| Flash Point Method: | (PMCC) |
| Burning Rate: | No data available |
| Autoignition Temp: | No data available |
| LEL: | DNA |
| UEL: | DNA |

Extinguishing Media:

Water Spray Water Fog Carbon Dioxide
Alcohol-Resistant Foam
Dry Chemical

Special Hazards Arising From the Substance or Mixture:

Aldehydes Ammonia Carbon Oxides
Hydrocarbon particulate Nitrogen Oxides (NO_x) Silicon Oxides

Advice for Firefighters:

Firefighters should wear full-face, positive-pressure respirators.

Further Information:

If incinerated, may release toxic fumes.

Use water spray to cool unopened containers.

Do NOT use high volume water jet to extinguish fire, as the force of the water jet may cause fire to spread. See Section 7 for more information on safe handling.

See Section 8 for more information on personal protection equipment. See Section 13 for disposal information.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Use personal protective equipment. Keep from contacting skin or eyes. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental Precautions: Prevent further release (leakage/spillage) if safe to do so. Do not allow product to enter drains. Do not allow to drain to environment.

Methods and Materials for Containments and Cleaning Up: Ensure adequate ventilation. Contain spillage and absorb with liquid-binding material (sand, diatomite, universal binders, vermiculite) and placed in container for disposal. Spill may also be diluted with equal volume of water and absorbed (as above) or collect with an electrically-protected vacuum cleaner or by wet-brushing. Collected waste should then be placed in container for disposal. Dispose of contaminated material according to Section 13.

Reference to Other Sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment. See Section 13 for information on proper disposal.

7. HANDLING AND STORAGE

Handling Precautions: Avoid breathing vapors or mist.

Avoid contact with eyes, skin, or clothing. Keep containers closed when not in use.

Do not expose containers to open flame, excessive heat, or direct sunlight. Keep away from sources of ignition.

Do not smoke while using material. Do not puncture or drop containers.

Handle with care and avoid spillage on the floor (slippage). Keep material out of reach of children.

Keep material away from incompatible materials. Wash thoroughly after handling.

Storage Requirements:

Keep container tightly closed.

Avoid inhalation of vapors or mist upon opening container. Store in a well-ventilated place.

Do not store at elevated temperatures. Do not store in direct sunlight.

Store away from strong acids, strong bases, strong oxidizing agents, Nitrous acids, Nitrosating agents, Hydrofluoric acid, Hydrogen Fluoride, Fluorine and other Halogens, Fluorides, Chlorine Trifluoride and Manganese Trioxide.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use local exhaust at filling zones and where leakage and dust formation is probable. Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.

Personal Protective Equip:

Eye/face protection: When using material use safety goggles, gloves and apron according to HMIS PP, C. A vapor respirator according to HMIS PP, U is also strongly recommended if working with material in poorly ventilated spaces. All safety equipment should be tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection: Handle with gloves made from PVC, butyl-rubber, neoprene or nitrile. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact. Dispose of contaminated gloves according to applicable laws and laboratory practices.

Body Protection: Chemically resistant gloves, apron and safety goggles are recommended. Type of protective equipment should be selected based on concentration amount and conditions of use of this material.

Respiratory protection: Full-face vapor respirator may be required as backup to engineering controls when proper engineering controls are not in place to keep TLV and PEL limits below defined thresholds.

Control of environmental exposure: Prevent leakage or spillage if safe to do so. Do not let material enter drains.

Components with workplace control parameters:

Component(s): Silica, crystalline quartz; Morpholine

CAS No(s): 14808-60-7; 110-91-8

USA NIOSH (TWA/REL): 70 mg/m³

USA NIOSH (ST/REL): 105 mg/m³

USA ACGIH (TWA/TLV): 0.025 mg/m³ (Silica, crystalline quartz - inhalation and/or aspiration) USA ACGIH (TWA/TLV): 70 mg/m³

USA OSHA - Table Z-1 Limits for Air Contaminants (TWA): 70 mg/m³

USA OSHA - Table Z-1 Limits for Air Contaminants (STEL): 105 mg/m³

USA OSHA Occupational Exposure Limits Table Z-1 Limits for Air Contaminants (TWA): 70 mg/m³

Biological occupational exposure limits: Contains no substances with biological occupational exposure limits values.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Creamy, white liquid
Physical State: Liquid
Odor Threshold: Not determined
Particle Size: Not determined
Spec Grav./Density: 1.180 g/ml (9.85 lbs/gal)
Viscosity: Not determined
Sat. Vap. Conc.: Not determined
Boiling Point: 100 °C (212 °F)
Flammability: (solid, gas): Not determined
Partition Coefficient: Not determined
Vapor Pressure: (mm Hg @ 20 °C): Not determined
pH: @ 1%: 8.0 - 9.0
Evap. Rate: (N-Butyl Acetate = 1): Not determined
Molecular weight: MIXTURE
Decomp Temp: Not determined
Odor: Masked Ammonia
Molecular Formula: MIXTURE
Solubility: 100%
Softening Point: Not determined
Percent Volatile: 28.43%
Heat Value: Not determined
Freezing/Melting Pt.: Not determined
Flash Point: DNA
Octanol: Not determined
Vapor Density: (air = 1): Not determined
VOC: 336 g/l
Bulk Density: Not determined
Auto-Ignition Temp: Not determined
UFL/LFL: Not determined

10. STABILITY AND REACTIVITY

Stability: Product is stable under normal conditions
Conditions to Avoid: Incompatibilities, flames, ignition sources.
Materials to Avoid: Strong acids, strong bases, strong oxidizing agents, Nitrous acids, Nitrosating agents, Hydrofluoric acid, Hydrogen Fluoride, Fluorine, Fluorides, Chlorine Trifluoride and Manganese Trioxide.
Hazardous Decomposition: Aldehydes, Ammonia, Carbon Oxides, Hydrocarbon particulate, Nitrogen Oxides (NOx) and Silicon Oxides.
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Component(s): Silica, crystalline quartz; Solvent naphtha, petroleum, medium aliph.; 9-Octadecenoic acid (9Z)-, ammonium salt; Amides, coco, N,N-bis(hydroxyethyl)
CAS No(s): 14808-60-7; 64742-88-7; 544-60-5; 68603-42-9

Acute Toxicity:

LD50 Oral - Rat: > 1,450 mg/kg
LD50 Dermal - Rabbit: 500 mg/kg
LC50 Inhalation - Rat: > 5,500 ppm (4 h) LC50 Inhalation - Rat: 8,000 ppm (8 h)

Skin Corrosion/Irritation: Rabbit skin - Severe skin irritation (24 h).

Serious Eye Damage/Eye Irritation: Rabbit eyes - Severe eye irritation

Respiratory or Skin Sensitization: May cause respiratory irritation. Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

Germ Cell Mutagenicity: Mouse lymphocyte - Morphological transformation. Hamster ovary - Sister chromatic exchange.

Carcinogenicity: Oral - Mouse: Carcinogenic. Inhalation - Mouse: Tumorigenic, Neoplastic by RTECS criteria (Lungs, Thorax); Respiration (Bronchiogenic carcinoma); Liver (Tumors).

This product is or contains components that are classifiable as to their carcinogenicity based on their IARC, ACGIH, NTP, or OSHA classification.

IARC: 1 - Group 1: Carcinogenic to humans (Silica, crystalline quartz). 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Morpholine). 2B - Group 2B - Possibly carcinogenic to humans (Amides, coco, N,N- bis(hydroxyethyl)).

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: Known to be a human carcinogen (Silica, crystalline quartz).

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: May cause damage to organs through prolonged or repeated exposure.

Aspiration Hazard: May be harmful if swallowed and enters airways.

Additional Information:

Component: Silica, crystalline quartz; RTECS: VV7330000

Component: Solvent naphtha, petroleum, medium aliph.; RTECS: WF3450000

Component: 9-Octadecenoic acid (9Z)-, ammonium salt; RTECS: RG3700000

Component: Morpholine; RTECS: QD6475000

Component: Amides, coco, N,N-bis(hydroxyethyl); RTECS: GG6200000

12. ECOLOGICAL INFORMATION

Component(s): Silica, crystalline quartz; Solvent naphtha, petroleum, medium aliph.; 9-Octadecenoic acid (9Z)-, ammonium salt; Amides, coco, N,N-bis(hydroxyethyl)

CAS No(s): 14808-60-7; 64742-88-7; 544-60-5; 68603-42-9

Toxicity:

Toxicity to fish:

LC50 - Oncorhynchus mykiss (Rainbow Trout): 180 - 380 mg/l (96 h) LC50 - Brachydanio rerio: 3.6 mg/l (96 h)

LC50 Pimephales promelas (Fathead Minnow): > 100 mg/l (96 h)

Toxicity to daphnia and other aquatic invertebrates:

EC50 - Daphnia magna (Water Flea): 4.2 mg/l (24 h)

Toxicity to algae:

EC50 - Desmodesmus subspicatus (Green Algae): > 310 mg/l (72 h)

Growth Inhibition LOEC - Desmodesmus subcapitata (Green Algae): 80 mg/l (72 h)

Persistence and Degradability:

Not readily biodegradable.

Bioaccumulative potential:

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Most of the hydrocarbon blocks comprising Naphtha Solvents have a $\text{Log}_{\text{KOW}} > 3$, indicating that these constituents have a potential to bioaccumulate.

Mobility in Soil:

No data available.

Results of PBT and vPvB assessment:

Not required/conducted.

Other Adverse Effects:

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life. May cause long lasting harmful effects to the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Product: Hazardous wastes shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution, release into the environment or damage to people and animals. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated Packaging: Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

Non-regulated material, liquid

IMDG

Non-regulated material, liquid

IATA

Non-regulated material, liquid

15. REGULATORY INFORMATION

COMPONENT / (CAS/PERC) / CODES

*Silica, crystalline quartz (14808607 <30%) NJHS, MASS, NRC, OSHAWAC, PA, PROP65, SARA311/312, TSCA, TXAIR

*Solvent naphtha, petroleum, medium aliph. (64742887 <20%) NJHS, PA, SARA311/312, TSCA

*9-Octadecenoic acid (9Z)-, ammonium salt (544605 <5%) TSCA

*Morpholine (110918 <5%) MASS, NJHS, OSHAWAC, PA, SARA311/312, TSCA, TXAIR

*Amides, coco, N,N-bis(hydroxyethyl) (68603429 <5%) PROP65, TSCA

*Trade Secret (None 0-5%) EINECS, MASS, NRC, OSHAWAC, PA, SARA311/313, TSCA, TXAIR

REGULATORY KEY DESCRIPTIONS

EINECS = European Inventory of Existing Chemical Substances

MASS = MA Massachusetts Hazardous Substances List

NJHS = NJ Right-to-Know Hazardous Substances

NRC = Nationally Recognized Carcinogens

OSHAWAC = OSHA Workplace Air Contaminants

PA = PA Right-To-Know List of Hazardous Substances

PROP65 = CA Prop 65

SARA311/312 = SARA 311/312 Toxic Chemicals

TSCA = Toxic Substances Control Act

TXAIR = TX Air Contaminants with Health Effects Screening Level

16. OTHER INFORMATION

Disclaimer:

The data in this Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material in any process. The information set forth herein is furnished free of charge and is based on technical data that Titan Laboratories believes to be reliable. It is intended for use by persons having technical skill and at their own discretion and risk. Since conditions of use are outside of Titan Laboratories' control, Titan Laboratories makes no warranties, expressed or implied, and assumes no liability in connection with any use of this information. Nothing herein is to be taken as a license to operate under, or a recommendation to infringe upon, any patents.

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