



PRODUCT INSTRUCTIONS, INFORMATION & MSDS



RBM HoldBlock™

RBM HoldWash-HD™

RBM BilgeCoat

RBM Application Set

RBM HydroBlaster

RBM HOLD SOLUTIONS

#105 – 3438 195th Street
Surrey, BC V3Z 1A5 Canada
+1 604 531-8333

www.holdsolutions.com

Updated: June 2025



RBM HOLDBLOCK™

A barrier solution for vessels carrying corrosive and/or messy cargos; such as Sulphur, Salt, HBI and Petcoke.

RBM HoldBlock is removed with RBM HoldWash-HD.

Recommended Quantities based on a 2 week voyage:

CARGO	HANDYSIZE 4 HO/HA	HANDYMAX 5 HO/HA	PANAMAX 7 HO/HA
SULPHUR, SALT, ETC.	9 PAILS CONCENTRATE	12 PAILS CONCENTRATE	16 PAILS CONCENTRATE
COAL, PETCOKE, ETC.	6 PAILS CONCENTRATE	9 PAILS CONCENTRATE	12 PAILS CONCENTRATE

Pail Size: 12" x 12" x 16" Weight: 45 lbs

FEATURES & BENEFITS



- Protects metal against corrosive cargo.
- Non harmful to the environment.
- Safe to use in occupied/covered areas.
- More effective than limewash.
- Reduces turnaround times.
- Applied by the ship's crew using an RBM Application Set.
- Available in 20 litre pail for easy shipping and handling.

USES

- **Sulphur/Salt**- Prior to loading to protect against corrosion.
- **Coal** - Prior to loading to assist in cleaning.
- **DRI** - Prior to loading inside the holds as well as the outer decks, hatch combings, and superstructure.
- **Pitch** - prior to loading to assist in cleanup.
- **Petcoke** - to assist in cleaning especially around the "tide line" areas on the bulkheads and helps preserve paintwork from staining.

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RBM HoldBlock

APPLICATION INSTRUCTIONS

Use low-pressure application equipment to spray onto the surface that needs protection. Only a light spray is needed. If there is liquid running down, too much was used. Allow to dry before loading cargo.

HINTS FOR APPLYING

Start at the bottom of the bulkheads and work your way up. Hold the nozzle about ½ meter away from the surface. Do not stand in one spot. Side step along the bulkhead, always moving slowly. Apply to the tanktops before leaving the hold.

PAINT should be fully cured before applying RBM HoldBlock. Paint that has not cured properly may absorb RBM HoldBlock and cargo residues, making it very difficult to remove.

RAIN WATER on the tanktop is okay, but large puddles of water should be mopped up or spread out before applying RBM HoldBlock.

RESIDUES from previous cargo and/or Limewash must be removed before applying RBM HoldBlock.

APPLICATION – SULPHUR / SALT

Work your way up to about 4/5 meters, then cover the tanktops. Ensure full coverage on these areas. Check to see how much product has been used. If less than 2/3 drum, continue application higher.

Do not allow HoldBlock to run down the bulkheads. HoldBlock should be misted only. Mop any excess HoldBlock evenly on the tanktops to allow drying.

If outside temperature is close to freezing, mix HoldBlock with warm water to prevent freezing during application. If raining, close hatch covers to prevent rain from affecting the tanktops. Leave partially open for natural ventilation.

MIXING INSTRUCTIONS

20-Litre Concentrate Jugs:

30% HoldBlock Concentrate : 70% Fresh Water
(3 jugs of Concentrate = 1 drum of Solution)

Fill a clean empty drum half way with FRESH water. Add three jugs of RBM HoldBlock Concentrate. Mix Well. Top up with water, stirring occasionally.

EQUIPMENT SETUP & NOTES

Bleed the vessel's air lines before connecting the pump to avoid moisture in the lines. Weight the suction hose to keep secure at the bottom of the drum. Before connecting the outlet hose, secure it to avoid tension on the pump. Take extra precautions with hose connections. Loop the wand hose with the outlet hose to prevent fittings from disconnection.

Always start the pump with all hoses on deck to ensure there are no leaks. Always use a heaving line to lower equipment into the holds. Ensure the PowerWand tip is facing up.

REMOVAL INSTRUCTIONS

Remove as much remaining loose cargo as possible, as per normal procedures. Rinse down bulkheads with high-pressure water (firehose, etc). Let dry. Use RBM HoldWash to remove all traces of RBM HoldBlock residues.

Cleaning procedures may vary depending on type of cargo. If time permits, test various methods in small areas and use most effective method. For more detailed cleaning instructions, please refer to the instruction sheet for RBM HoldWash.

AVERAGE DRUM COVERAGE	APPROX COVERAGE	RECOMMENDED QTYS	
		HANDYMAX	PANAMAX
Good Paint and/or Clean Metal Surfaces with Little or No Rust	2200 m ² per drum	½ Drum per hold	¾ Drum per hold
Very Poor Paint and/or Pitted Metal Surfaces with Heavy Rust	1500 m ² per drum	¾ Drum per hold	1 Drum per hold

The above recommendations are based on past experiences. There is no scientific formula to determine the required amount of RBM HoldBlock for each vessel. There are several conditions that can affect the required amount; such as ability, efficiency and past experience of crew, hold conditions, weather conditions, height of application and equipment used.

Avoid contact with skin and eyes. Avoid breathing mist and vapors. Always wear protective gloves, goggles and masks. Keep away from oxidizers, acids and metallic powders. Refer to MSDS for more information.



RBM HOLDWASH-HD™

A versatile all-purpose marine cleaning solution. It can be used as a powerful stand-alone cleaner for oily stains and residues and removes RBM HoldBlock.

Recommended Quantities:

INTENDED USE	DILUTION RATE CONCENTRATE : FRESH WATER	PAILS PER HOLD
HEAVY DUTY CLEANING	100 LTRS : 100 LTRS WATER	5 PAILS
COAL & PETCOKE CLEANING	80 LTRS : 120 LTRS WATER	4 PAILS
HOLDBLOCK REMOVAL	60 LTRS : 140 LTRS WATER	3 PAILS
LIGHT CLEANING	40 LTRS : 160 LTRS WATER	2 PAILS

Jug Size: 10" x 12" x 17" Weight: 41 lbs

FEATURES & BENEFITS



- Heavy-duty hydrocarbon remover.
- Can be diluted to suit cleaning needs.
- Non harmful to the environment.
- Safe to use in occupied/ covered areas.
- Reduces turnaround times.
- Easily applied by ship's crew using an RBM Application Set

USES

- Coal
- Green Delayed Petcoke
- Calcined Petcoke
- Sulphur
- Salt
- General Purpose Cleaner
- Removes RBM HoldBlock

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RBM HoldWash-HD

APPLICATION INSTRUCTIONS

HEAVY-DUTY CLEANER

Instructions for cleaning oily residues (Coal, Petcoke, Concentrates, etc), whether or not RBM HoldBlock was used as a barrier before loading.

1. After discharge, remove as much remaining cargo as possible, as per normal procedures.
2. Do NOT wet surface before applying HoldWash-HD.
3. Mix 4 pails of RBM HoldWash-HD Concentrate with approx. 120 litres of **fresh** water, as per Mixing Instructions.
4. Apply HoldWash-HD liberally to affected areas with a low-pressure application system.
5. Allow to soak for about 15 minutes.
6. Use **FRESH** water to clean the area. Use the highest pressure possible.
7. Some brushing and/or scrubbing may be required for stains.
8. If second application is required, wait for surface to dry before applying again.

BARRIER REMOVAL

Instructions for removing RBM HoldBlock, after discharging non-oily cargos (Sulphur, Salt, etc)

1. After discharge, remove as much remaining cargo as possible, as per normal procedures.
2. Rinse down bulkheads with high-pressure water (firehose, etc).
3. Let dry.
4. Mix 3 pails of RBM HoldWash-HD Concentrate with approx. 140 litres of **fresh** water, as per Mixing Instructions.
5. Apply HoldWash-HD liberally to affected areas with a low-pressure application system.
6. Allow to soak for about 15 minutes.
9. Use **FRESH** water to clean the area. Use the highest pressure possible.

GENERAL CLEANING

Instructions for general hold maintenance and light-duty cleaning (engine room, crew's locker, kitchen, crane pedestals, etc.)

1. Mix 2 pails of RBM HoldWash-HD Concentrate with approx. 160 litres of **fresh** water, as per Mixing Instructions. For small areas, simply dilute 1:4 in any type of container.
2. Apply HoldWash-HD liberally to affected areas.
3. Allow to soak for about 15 minutes.
4. Rinse clean with **FRESH** water.

MIXING INSTRUCTIONS

Fill a clean empty drum half way with **FRESH** water. Add required pails of RBM HoldWash-HD Concentrate (see dilution rates). Mix Well. Top up with water, stirring occasionally.

DILUTION RATES

Heavy-Duty Cleaner **1:1.5**
4 Pails / Drum (80 ltrs:120 ltrs water)
Coal, Petcoke, Concentrates, etc

Barrier Remover **1:2**
3 Pails / Drum (60 ltrs:140 ltrs water)
Removal of RBM HoldBlock

General Cleaning **1:4**
2 Pails / Drum (40 ltrs:160 ltrs water)
Hold Maintenance, Engine Room, etc

HOW LONG TO SOAK?

15 minutes is only the suggested time. More time may be required for heavier residues. Determine the size of sections to clean and the soaking time by the current weather conditions. Clean small section in warm climates. In cooler temperatures, when drying time can be longer, clean larger sections.

Although RBM HoldWash-HD is safe to use, it may cause skin or eye irritation with prolonged contact. As a precaution, wear protective gloves, goggles and a mask. Do not spray directly onto skin or eyes. Avoid prolonged breathing of mist.



RBM BILGECOAT

An alkaline solution used for the bilge lines and bilge wells during sulphur voyages. It acts as a neutralizing agent.

Recommended Quantities:

One jug of RBM BilgeCoat concentrate, when mixed with water, makes 200 litres of BilgeCoat solution.

Approx. 15 litres of BilgeCoat solution is poured down each sounding pipe, in each hold, prior to loading sulphur and after each flushing of the bilges during the voyage.

RBM recommends 1 Jug per hold, per week.

Jug Size: 9.5" x 11.5" x 15" Weight: 41 lbs

FEATURES & BENEFITS



- Bilge protection against acidic water.
- Non harmful to the environment.
- Easier to use and safer than caustic soda flakes.

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RBM BilgeCoat

An alkaline solution used for the bilge lines and bilge wells during sulphur voyages. It acts as a neutralizing agent.

MIXING INSTRUCTIONS

- Use a clean empty container.
- Add 1 jug of BilgeCoat Concentrate.
- Add 180 litres of fresh water to make BilgeCoat solution.

APPLICATION INSTRUCTIONS

- Pour 15 to 20 litres of BilgeCoat Solution directly into each hold sounding pipe from on deck.
- Replenish each time after the bilge water is pumped out.



FEATURES AND BENEFITS

- Bilge protection against acidic water.
- Non-Harmful to the environment.
- Easier to use and safer than caustic soda flakes
- One jug of RBM BilgeCoat concentrate, when mixed with water, makes 200 L of BilgeCoat Solution
- Approx. 15-20 L of BilgeCoat solution is poured down each sounding pipe in each hold upon loading Sulphur and after each flushing of the bilges during the voyage.

Avoid contact with skin and eyes. Avoid breathing mist and vapors. Always wear protective gloves, goggles and masks. Keep away from oxidizing and reducing agents, acids and metallic powders. Refer to MSDS for more information.

SKIN: Wash exposed areas with water.

EYES: Flush eyes with plenty of water for 20 mins.

INHALATION: Remove patient to fresh air.

INGESTION: Do not induce vomiting.
Give patient a glass of water or milk.

**GET MEDICAL ATTENTION IF ALLERGIC REACTION
OCCURS OR SYMPTOMS PERSIST.**



RBM APPLICATION SET

Specifically designed equipment for low-pressure application of RBM HoldSolutions product line.

All of our Application Sets come with an instructional DVD. The application process is easily accomplished with 2-3 crew members. Pump and drum stay on deck for easy access.

Our equipment is of the highest quality workmanship and will work for many years with regular maintenance and servicing. We also have repairs kits if required.

Please note that these pumps are not recommended for applying strong acids or other highly corrosive chemicals as the diaphragms and internal workings of the pump are not designed to withstand these solutions.

Application Set Box Size: 24" x 18" x 17" Weight: 61 lbs

PowerWand Box Size: 97" x 7" x 3" Weight: 10 lbs

FEATURES & BENEFITS



- Specifically designed for low-pressure application.
- Compact & lightweight for easy storage and handling.
- Powered by ship's compressed air.

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CARE & MAINTENANCE

ALWAYS USE HEAVING LINE

Never use the hoses to raise or lower the PowerWand.
Always lower the wand with the tip facing upwards.

FLUSH PUMP & HOSES AFTER USE

1. Pump FRESH water through system to flush pump and hoses after each use.
2. Drain as much water as possible from hoses before putting away in storage.

WIPE DOWN POWERWAND AFTER USE

1. Disassemble the PowerWand by removing sections from each other.
2. Spray RBM HoldWash-HD (10:1 mixture) onto each PowerWand section.
(If HoldWash-HD not available, use a mild degreaser instead.)
3. Let sit for one minute, then wipe clean.
4. If inside of tubes require cleaning, spray HoldWash-HD (10:1) inside the tubes.
5. Insert a rag into each section and push through with a bamboo pole.

STORAGE INSTRUCTIONS

Store in a heated storage locker. Never store in freezing conditions.

TROUBLESHOOTING

PROBLEM:

CAUSE:

SOLUTION:

INSTRUCTIONS:

NO SUCTION

Air in Pump and/or Hoses

Reprime the Pump

Before repriming, check to make sure the suction hose is submersed in the liquid. To reprime, remove suction hose from liquid and let pump run until mostly empty. Turn pump off. Protect eyes and disconnect outlet hose. Insert suction hose into liquid. Stand away from pump. Turn on pump for about 2 seconds, or until liquid fills up suction hose. Reconnect outlet hose to pump. Continue using.

PROBLEM:

CAUSE:

SOLUTION:

INSTRUCTIONS:

LOW PRESSURE

Regulator Turned Down / Compressor Too Low

Adjust Regulator / Increase Outflow at Compressor

While pump is operating, adjust regulator to between 90 - 100 psi. If pressure is still low, then the outflow must be increased from the engine room. If more pressure is not available, then try priming the pump first before attaching the outlet hose.

PROBLEM:

CAUSE:

SOLUTION:

LEAKING FLUID (at Suction Inlet)

Washer Missing / Connection is not Tight

Replace Washer / Tighten Connection

PROBLEM:

CAUSE:

SOLUTION:

INSTRUCTIONS:

LEAKING AIR (at Back of Pump)

Bolts are Loose

Tighten Bolts

Use a 1/2" wrench to tighten the silver bolts on diaphragm cover. Be careful to not over-tighten, which can cause the plastic to crack.

PROBLEM:

CAUSE:

SOLUTION:

INSTRUCTIONS:

PUMP IS VERY LOUD

Broken Muffler cause by Accidental Contact or Over-Tightening

Use Pump without Muffler or Order New Muffler

Pump will operate normally without a muffler, but will be very loud. A new muffler can be ordered from RBM HoldSolutions if required.

RBM Application Set

AS-A036

CONTENTS



AS-P515

RBM Application Pump



AS-H38-150

Outlet Hose (150 Feet)



AS-H38-003

Air Operation Hose



AS-H34-010

Suction Hose



AS-H38-040

Wand Hose (40 Feet)



AS-W606

RBM PowerWand - 40' (Packaged Separately)



AS-XW-601

Support Belt



AS-XW-600

Nozzle Package



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ALSO AVAILABLE



A/S Repair Kit

AS-XP730

Pump & Hose Fittings, Air Filter,
Regulator & Diaphragm Repair Kit



A/S Spray Kit

AS-XP740

Wand Tip, 3 Nozzles, Support Belt,
3 Splash Goggles & 3 Particle Masks



Protective Clothing Kit

AS-PC101

6 Splash Goggles, 6 Particle Masks,
6 Nitrile Gloves & 6 Hooded Coveralls

1. PREPARATION

Unpack the equipment and identify all parts to be assembled. Unroll all hoses. Find a solid and sturdy surface for the pump on deck near the cargo hold where it will be used.

In addition to the items supplied, you will also need an Air Hose, a Heaving Line (for lowering the PowerWand), a clean bucket of fresh water (for flushing pump and hoses after use) and some twine (for securing hoses).



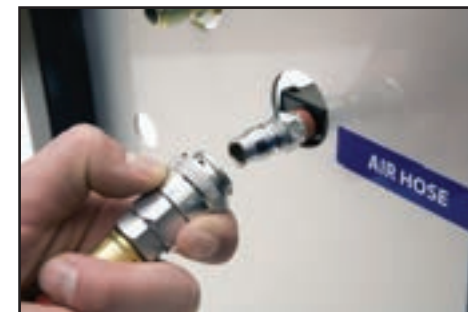
2. CONNECT SUCTION HOSE

Connect blue suction hose (10 feet) to pump. Make sure connection is hand-tight. Do NOT use a wrench.



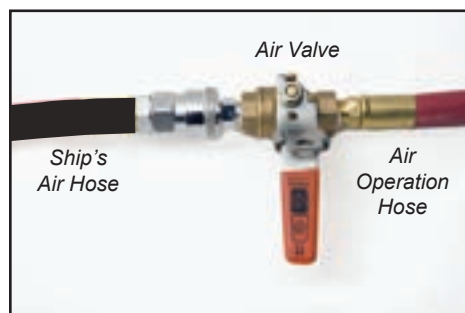
3. INSERT SUCTION HOSE

Insert the opposite end into the drum opening. If opening is too small, simply remove the suction filter. To prevent curling, tie the hose to a stick.



4. CONNECT AIR HOSE

Connect the Air Operation Hose (included with RBM Application Set) to the pump.



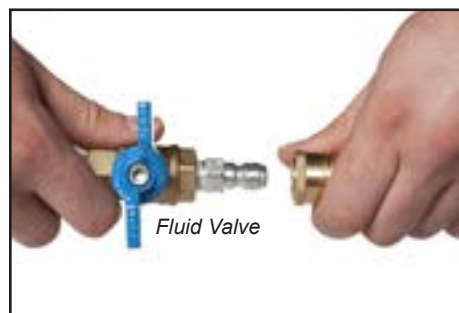
5. CONNECT AIR HOSES

Connect the Air Operation Hose to the Ship's air hose. If the connections are not compatible, use the hosebarbs (supplied with the Air Operation Hose) instead.



6. CONNECT OUTLET HOSE

Connect the Outlet Hose (150 feet) to the pump. Use twine or rope to secure the Outlet Hose to a solid fixture, to relieve pressure on the pump connections.



7. CONNECT HOSES

Connect the Outlet Hose (150 feet) to the Wand Hose (40 feet). Turn fluid valve OFF.



8. FEED WAND HOSE

Feed the Wand Hose through the inside of the PowerWand. Do NOT extend the PowerWand yet. Twist gently if blocked.



9. CONNECT WAND TIP

Connect the Wand Tip to the Wand Hose. Set the Wand Tip into the top of the PowerWand and tighten the nut by hand. Do NOT use a wrench.



10. CONNECT NOZZLE

Connect the white Fan-Spray Nozzle to apply RBM HoldBlock, or connect the Brass Foaming Nozzle to apply RBM HoldWash-HD. Turn clockwise for a fine mist, or counter-clockwise for jet spray.

11. LOWER WAND INTO HOLD

Always use a heaving line. Never use the hoses to raise or lower the wand. Always make sure tip is facing upwards.

12. TURN ON AIR SUPPLY

Open ship source and turn air valve ON. Test the pump to ensure there are no air or fluid leaks.

13. ADJUST PRESSURE

Adjust the air pressure gauge to between 90 and 100 psi, if necessary. If pressure does not increase at the pump, then increase the air pressure supply from the engine room.

14. ENTER CARGO HOLD

Three crew members are recommended for using the RBM Application Set. One crew should remain on deck to monitor the pump. One crew should hold the hoses and operate the fluid valve inside the cargo hold. The last crew member should control the direction of spray with the PowerWand.

15. BEGIN SPRAYING

Extend PowerWand to desired height. Turn fluid valve ON to begin spraying.

A heaving line can be used to support the weight of the wand from above.



RBM HYDROBLASTER

A very powerful cleaning tool when used in conjunction with HoldWash-HD.

Combines water and compressed air to create a powerful jet of water for excellent cleaning results.

It can provide a "jet" of water to over 100' (30 m), with efficient ship's compressor and is excellent at removing cargo residues, rust and scale and loose paint.

HydroBlaster Box Size: 49" x 9" x 9" Weight: 45 lbs

Air Hose Size: 30" x 30" x 6" Weight: 64 lbs

FEATURES & BENEFITS



- Adjustable control valve.
- Easy to set up and use.
- Solid 3 legged stand for stability.
- Operational by one man.
- Kit comes complete with gun, stand and 150' / 1" ID Air hose.

SPECIFICATIONS

- Water Consumption:
485 ltr/minute (110 gal/minute)
- Water Pressure:
85-90 PSI (6 KG/CM2)
- Air Consumption:
71 cfm (2m3/Minute)
- Air Pressure:
100-120 PSI (7-8 KG/CM2)
- Water Hose Compatibility:
2" (51mm) or 2.5" (64mm)

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RBM HydroBlaster

AS-M485



CONTENTS



HydroBlaster Gun



H/B Air Hose



HydroBlaster Stand



Fire Hose Couplers

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1. ATTACH GUN TO STAND

Erect the HydroBlaster stand, locking the legs to ensure it is stable. Attach the gun to the stand and use the locking pin to secure the gun in place.

2. CONNECT FIRE HOSE

Select a fire hose coupler (51 or 64mm) to match the inside dimension of the fire hose to be used. Connect one end of the fire hose to the ship's water supply and the other end to the HydroBlaster gun.



3. CONNECT AIR HOSE

Always blow out the air hose before using to remove particles. Connect one end of the air hose to the ship's air supply and the other end to the HydroBlaster gun. Turn the air valve to the OFF position.



4. TURN ON WATER & AIR

While holding the gun steady, slowly turn on the water supply. Once the water supply is steady, slowly open the air valve. Adjust until a hard-hitting jet is obtained. Too much air flow will cause the jet stream to break up.



SPECIFICATIONS

Recommended Water Pressure	6 kg / cm ²	85 psi
Recommended Air Pressure	7 kg / cm ²	100 psi
Estimated Air Consumption	2 m ³ / min	71 cfm
Recoil	10/18 kg	24/40 lbs
Weight of Gun & Stand	15 kg	33 lbs
Weight of Gun	5.6 kg	12 lbs
Length of Gun	74 cm	24"
Length of Stand	140 cm	45"

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RBM HoldBlock Concentrate

SDS Preparation Date (mm/dd/yyyy): 06/01/2025

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SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: **RBM HoldBlock Concentrate**

Other means of identification : Not available.

Recommended use of the chemical and restrictions on use

: Raw material for industry
Restrictions on use: None known.

Chemical family

: Mixture

Name, address, and telephone number
of the supplier:

RBM Holdsolutions

Unit 105 - 3438 195th Street
Surrey, British Columbia, Canada, V3Z 1A5

Name, address, and telephone number of
the manufacturer:

Refer to supplier

Supplier's Telephone # : (604) 531 8333

24 Hr. Emergency Tel # : +1 (604) 531-8333

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Liquid Dispersion. Off white. Slight odour.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS. Avoid release to the environment.

This material is not classified as hazardous under U.S. OSHA regulations (29 CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Label elements

Hazard pictogram(s)

None required under U.S. OSHA Hazcom 2012 and Canadian WHMIS 2015 regulations.

Signal Word

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

Hazard statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

Precautionary statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

Additional Labelling:

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 47.7981%

Other hazards

Other hazards which do not result in classification:

None known.

RBM HoldBlock Concentrate

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SAFETY DATA SHEET

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture.

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
No hazardous ingredients	Not applicable.	N/Av	100.00

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

- Ingestion* : Do NOT induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. If irritation or symptoms develop, seek medical attention.
- Inhalation* : IF INHALED: Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If irritation or symptoms develop, seek medical attention.
- Skin contact* : IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
- Eye contact* : Rinse immediately with plenty of water, also under the eyelids. If eye irritation persists: get medical advice/attention.

Most important symptoms and effects, both acute and delayed

- : Direct eye contact may cause temporary redness.

Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : None known.

Special hazards arising from the substance or mixture / Conditions of flammability

- : Not considered flammable. However, may burn if exposed to extreme heat and flame. Burning produces obnoxious and toxic fumes.

Flammability classification (OSHA 29 CFR 1910.106)

- : Not classified as flammable.

Hazardous combustion products

- : Not available.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

RBM HoldBlock Concentrate

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SAFETY DATA SHEET

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : Keep people away from and upwind of spill/leak. Wear appropriate protective equipment. Restrict access to area until completion of clean-up.

Environmental precautions : Prevent product from entering drains, sewers, waterways and soil.

Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Use only non-sparking tools and equipment in the clean-up process. Spilled material will create slippery surfaces. Clean up promptly. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13).

Special spill response procedures

- : Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

- : Provide adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing mist, vapors or spray. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Take precautionary measures against static discharge. Avoid formation of aerosol. No special precautions are needed in handling this material. Wash thoroughly after handling.

Conditions for safe storage : Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, flame, sparks, or ignition sources. Protect from frost, heat and sunlight.

Incompatible materials : Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Exposure Limits:</u>			
<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u> <u>STEL</u>
No hazardous ingredients	N/Av	N/Av	N/Av N/Av

Exposure controls

Ventilation and engineering measures

- : No special requirements under ordinary conditions of use and with adequate ventilation.

Respiratory protection : None required under normal conditions. Breathing apparatus only if aerosol or dust is formed. Respiratory protection complying with EN 143.

Skin protection : Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye / face protection : Safety glasses with side-shields conforming to EN166.

Other protective equipment : Wear long sleeved shirt and pants to minimize exposed skin. Other equipment may be required depending on workplace standards.

General hygiene considerations

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- : Handle in accordance with good industrial hygiene and safety practice.
- Avoid breathing dust, fume or vapors.
- Avoid contact with skin, eyes and clothing.
- Wash thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Remove and wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical State** : Liquid; dispersion
- Colour** : off-white
- Odour** : slight
- Odour threshold** : Not available.
- pH** : 8.9
- Melting Point/Freezing point** : 32-39 °F / 0-4 °C
- Initial boiling point and boiling range** : ca. 212 °F / 100 °C
- Flash point** : Not available.
- Flashpoint (Method)** : Not available.
- Evaporation rate (BuAe = 1)** : Not available.
- Flammability** : Not flammable.
- Lower explosion or flammability limit (% by vol.)** : Not available
- Upper explosion or flammability limit (% by vol.)** : Not available
- Oxidizing properties** : None known.
- Explosive properties** : Not explosive
- Vapour pressure** : 23 hPa
- Relative vapour density** : Not available.
- Relative density / Specific gravity** : Not available.
- Solubility in water** : Soluble
- Other solubility(ies)** : Not available.
- Partition coefficient: n-octanol/water or Coefficient of water/oil distribution** : log Pow: > 3.5
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not available.
- Particle characteristics** : Not applicable
- Volatiles (% by weight)** : Not available.
- Volatile organic Compounds (VOC's)** : No information available.
- Absolute pressure of container** : Not applicable.
- Flame projection length** : Not applicable.
- Other physical/chemical comments** : Density: ca. 0.95 g/cm³ (68 °F / 20 °C)

SECTION 10. STABILITY AND REACTIVITY

- Reactivity** : Not normally reactive.
- Chemical stability** : Stable under normal conditions.

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Possibility of hazardous reactions

: Hazardous polymerization does not occur.

Conditions to avoid

: Protect from frost, heat and sunlight.

Incompatible materials

: Strong oxidizing agents

Hazardous decomposition products

: Not available.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES

Routes of entry skin & eye : YES

Routes of entry Ingestion : YES

Routes of exposure skin absorption

: NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: None expected, when used as intended.

Sign and symptoms ingestion

: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Sign and symptoms skin

: Direct skin contact may cause slight or mild, transient irritation.

Sign and symptoms eyes

: Direct eye contact may cause slight or mild, transient irritation.

Potential Chronic Health Effects

: None known or reported by the manufacturer.

Mutagenicity

: Not expected to be mutagenic.

Carcinogenicity

: No other components are classified as carcinogenic by IARC, ACGIH, OSHA or NTP.

Reproductive effects & Teratogenicity

: Not expected to cause reproductive effects.

Sensitization to material

: Not expected to be a skin or respiratory sensitizer.

Specific target organ effects

: According to the classification criteria of U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015), this product is not expected to cause target organ toxicity through single or repeated exposures.

Medical conditions aggravated by overexposure

: None known or reported by the manufacturer.

Synergistic materials

: None known or reported by the manufacturer.

Toxicological data

: Not classified for acute toxicity based on available data. No data is available on the product itself. See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC₅₀(4hr)</u>	<u>LD₅₀</u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
No hazardous ingredients	N/Av	N/Av	N/Av

Other important toxicological hazards

: None known or reported by the manufacturer.

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SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

<u>Ingredients</u>	CAS #	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
No hazardous ingredients	N/Av	N/Av	N/Av	None.

<u>Ingredients</u>	CAS #	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
No hazardous ingredients	N/Av	N/Av	N/Av	None.

<u>Ingredients</u>	CAS #	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
No hazardous ingredients	N/Av	N/Av	N/Av	None.

Persistence and degradability

: Not available.

Bioaccumulation potential

: Not available. See the following data for ingredient information.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
No hazardous ingredients (CAS N/Av)	N/Av	N/Av

Mobility in soil

: Not available.

Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal

: Handle in accordance with good industrial hygiene and safety practice.

Methods of Disposal

: Dispose of in accordance with local regulations.

RCRA

: If these products, as supplied, become waste in the United States, they may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. Under the RCRA, it is the responsibility of the waste generator to determine the proper waste identification and disposal method.





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SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
49CFR/DOT	None.	Not regulated.	not regulated	none	
49CFR/DOT Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				

Special precautions for user : Appropriate advice on safety must accompany the package.

Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	de Minimis Concentration
No hazardous ingredients	N/Av	NS	None.	None.	NS	NS

SARA TITLE III: Sec. 311 and 312 SDS Requirements, 40 CFR 370 Hazard Classes: Not a hazard under normal conditions of use. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

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US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
No hazardous ingredients	N/Av	No		NS	NS	NS	NS	NS	NS

Canadian Information:

All ingredients are present on the DSL.

International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
No hazardous ingredients	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av

SECTION 16. OTHER INFORMATION

Legend

: ACGIH: American Conference of Governmental Industrial Hygienists
 CAS: Chemical Abstract Services
 CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
 CFR: Code of Federal Regulations
 CSA: Canadian Standards Association
 DOT: Department of Transportation
 EPA: Environmental Protection Agency
 IARC: International Agency for Research on Cancer
 Inh: Inhalation
 LC: Lethal Concentration
 LD: Lethal Dose
 N/Ap: Not Applicable
 N/Av: Not Available
 NIOSH: National Institute of Occupational Safety and Health
 NTP: National Toxicology Program
 OSHA: Occupational Safety and Health Administration
 PEL: Permissible exposure limit
 SARA: Superfund Amendments and Reauthorization Act
 STEL: Short Term Exposure Limit
 TDG: Canadian Transportation of Dangerous Goods Act & Regulations
 TLV: Threshold Limit Values
 TWA: Time Weighted Average
 WHMIS: Workplace Hazardous Materials Identification System

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References : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices
2. ECHA - European Chemical Agency
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases
4. Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists
6. California Proposition 65 List
7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal

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Other special considerations for handling

: Provide adequate information, instruction and training for operators.

<u>Prepared for:</u> RBM Holdsolutions Unit 105 - 3438 195th Street Surrey, British Columbia, Canada, V3Z 1A5 Telephone: (604) 531 8333	
<u>Prepared by:</u> ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com	

DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by RBM HOLDSOLUTIONS and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and RBM HOLDSOLUTIONS expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

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END OF DOCUMENT

RBM HOLDWASH-HD

MATERIAL SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION

Product Identifier: RBM HoldWash HD
Product Code(s): HW-HD20C
Product Use: Heavy Duty Degreasing Syrup
Chemical Family: Proprietary Mixture / Preparation
Information Telephone #: +1 (604) 531-8333
24 Hr. Emergency Tel #: Refer to supplier

Supplier's Name and Address:

RBM HoldSolutions
 Unit 105 – 3438 195 Street
 Surrey, BC V3Z 1A5 Canada

SECTION 2 – HAZARDS IDENTIFICATION

2.1 Classification of the mixture:

2.1.1 Regulation (EC) No. 1272/2008 (CLP): Combustible liquid (Category 4)
 Aspiration hazard (Category 1)
2.1.2 Directive 67/548/EEC & Directive 1999/45/EC: Not regulated

2.2 Label elements:

2.2.1 Label elements According to Regulation (EC) No. 1272/2008 (CLP):

- GHS Product Identifier: (EU)
- Hazard pictogram(s): GHS08
- Signal word(s): Danger
- Hazard statement(s): Combustible liquid.
- May be fatal if swallowed and/or enters airways
- H227: Combustible liquid
- H305: May be fatal if swallowed and/or enters airways

Precautionary Statement(s):

- P210: Keep away from heat, sparks, open flame, hot surfaces - No smoking
- P280: Wear protective gloves/protective clothing/eye protection/face protection
- P370+P378: In case of fire - Use water or dry foam for extinction
- P403+P235: Store in a well-ventilated place. Keep cool
- P301+P310: IF SWALLOWED - Immediately call a POISON CENTER or doctor/physician
- P331: DO NOT induce vomiting
- P405: Store locked up














2.2.2 Label elements According to Directive 67/548/EEC & Directive 1999/45/EC:

- Hazard Symbol: Not regulated
- Risk Phrase: Not Regulated
- Safety Phrases: Not regulated

2.3 Other hazards - Potential Health Effects:

- Inhalation: May cause drowsiness or dizziness.
- Eyes: This chemical can cause eye irritation.
- Skin: Avoid Prolonged Contact
- Ingestion: May be harmful if swallowed and/or enters airways. Causes nausea, vomiting and diarrhea.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient(s)	% W/W	CAS No. EC No.	Regist. #	Hazard pictogram(s) and statement(s)		EC Classification and Risk Phrases	
d-Limonene	7-13%	5989-7-5 227-813-5		   	Flam.liq.3 H226, Skin irrit 2, H315, Skin sens 1, H317 Acuatic chronic 1, H400,H410	 	F, Xi, Xn, N: R10, R38, R43,R50/53
Distillate(petrol) hydrotreated light	10-30%	64742-478 265-149-8		  	Acute tox 4 H302, Asp Tox 1 H304, Acute Tox 3 H331 Aquat chron2 H411		Xn, R65
Monoethanola mine	1-5%	141-43-5 265-149-8		 	Acute Tox.4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Corr.1B, H314 Eye Dam. 1, H318 STOT SE 3, H335		C, R 20/21/22 R 34

RBM HOLDWASH-HD - MATERIAL SAFETY DATA SHEET**SECTION 4 – FIRST AID MEASURES****4.1. Description of first aid measures:**

- Eyes: Check for and remove any contact lenses. Do not rub eyes. Immediately flush with warm running water, keeping eyelids apart for 15 minutes. Call a physician if irritation develops.
- Skin: Remove contaminated clothing. Wash affected skin with soap and water. See a physician if irritation develops.
- Ingestion: No toxic effect is expected. Rinse mouths with water and drink 1 glass of water. Do not induce vomiting. Consult a physician.
- Inhalation: Provide for immediate access to fresh air. If symptoms persist, seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed: May cause lung damage if swallowed

4.3 Indication of the immediate medical attention and special treatment needed: Treat symptomatically

SECTION 5 – FIRE FIGHTING MEASURES

5.1 Extinguishing media: Suitable Extinguishing Media: Extinguish preferably with water or dry foam
Unsuitable Extinguishing Media: Not available.

5.2 Special hazards arising from the substance or mixture: Product is combustible and a slip hazard.

5.3 Advice for fire-fighters: Suitable protective clothing should be worn in fire conditions.

SECTION 6 – ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures:****For non-emergency personnel:**

- Small spill: Use appropriate tools to wipe up the product. Rinse contaminated area with water.
- Large spill: Stop the leak if possible. Ventilate the area involved. Prevent liquid solution from entering sewer or storm drains. Contain and clean-up the spill. Observe all personal protection equipment recommendations. Observe personal protection requirements during removal of spillage. Eliminate all ignition sources if safe to do so. Local authority should be notified if significant spill cannot be contained. Keep people away from and upwind of spill.

For emergency personnel:

- Use personnel protection recommended in Section 8

6.2 Environmental precautions:

- Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water sources or on the ground.

6.3 Methods and material for containment and cleaning up:

- Spills to be contained to avoid release into sewers, storm drains or natural water sources.
- Wear suitable protective clothing, gloves and eye/face protection.
- Remove or safe guard all sources of ignition. Clean up remaining liquid with water.

6.4 Reference to other sections: See Also Section 7, 8, 13.

6.5 Additional Information: Waste Disposal: Follow local regulations for discharge of waste and effluent.

SECTION 7 – HANDLING AND STORAGE**7.1 Precautions for safe handling:**

- Avoid breathing vapor.
- Avoid ingestion. Use only in well-ventilated areas.
- Avoid inhalation of high concentrations of vapors.
- Keep away from oxidizing and/or reducing agents.
- Keep away from fire, sparks, heated surfaces and open flames.
- No smoking.

7.2 Conditions for safe storage, including any incompatibilities:

- Store in a well-ventilated place. Do not use or store near heat or open flame.
- Do not store and/or transport with oxidizers etc.
- Keep container closed when not in use.
- To be stored in temperatures not exceeding +50° Celsius
- Storage Life Not available.
- Incompatible with Oxidizing agents and Strong Acids.

7.3 Specific end use(s): Not applicable

RBM HOLDWASH-HD - MATERIAL SAFETY DATA SHEET

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 Control parameters:

8.1.1 Occupational Exposure Limits	Not Available.
8.1.2 Biological limit value	Biological limit values are not available for this product.
8.1.3 PNECs and DNEL's	No PNEC's and/or DNEL's are available for this product.

8.2 Exposure controls:

8.2.1 Appropriate engineering controls: Guarantee sufficient ventilation during and after use to prevent vapor accumulation.

8.2.2 Personal protection equipment:

- Protective Hand wear: Gloves recommended preventing drying of hands.
- Protective Eyewear: Safety glasses with side shields or goggles
- Other protective clothing: Not required.
- Respiratory Apparatus: Adequate fresh air ventilation recommended
- Local/mechanical exhaust: Not normally required if good ventilation is maintained.

8.2.3 Environmental Exposure Controls:

- Adequate ventilation must be used. Guarantee sufficient ventilation during & after use, to prevent vapor accumulation.

SECTION 9 – PHYSICAL DATA

Physical State:	Liquid	Odor	Mild
Appearance	Gold	Odor Threshold	N/E
Specific Gravity	0.933	Vapor Pressure	N/Ap
Vapor Density (Air = 1)	N/Av	Evaporation Rate	N/E
Boiling Point (0C)	N/Av	Freezing Point: (°C)	-20 °C
Solubility in Water	N/Av	pH Factor	10.60
Flash Point/Method op. cup (°C)	72°C	% Volatile	N/E
Explosive limits	No	Oxidizer	No
Water solubility	N/Av	Viscosity	N/E
Partition coefficient	N/Av	Auto Ignition Temperature	N/E
Decomposition Temperature	N/Av	Explosive Properties	N/E

SECTION 10 – STABILITY AND REACTIVITY

10.1 Reactivity:	Strong oxidizing agents, strong reducing acids
10.2 Chemical Stability:	Stable under normal conditions
10.3 Possibility of hazardous reactions:	Can react if in contact with – strong oxidizing agents
10.4 Conditions to avoid:	Avoid contact with heat and ignition sources
10.5 Incompatible materials:	Strong oxidizing agents, strong reducing acids
10.6 Hazardous Decomposition Product(s):	Carbon monoxide, Carbon dioxide
10.7 Hazardous polymerization:	Will not occur.

SECTION 11 – TOXICOLOGICAL INFORMATION

Information on toxicological effects:

11.1.2 Mixtures

- Acute Oral Toxicity Estimate: LD 50 (Oral, rat) > 4,066 mg / kg
- Acute Dermal Toxicity Estimate: LD 50 (Dermal, rat) > 2,400 mg / kg
- Irritation: Causes eye irritation
- Skin sensitization: None
- Corrosivity: Not to be expected
- Carcinogenicity Data: Ingredients of this product is not classed as carcinogenic by ACGIH, IARC or OSHA
- Reproductive Data: No adverse reproductive effects are anticipated
- Mutagenicity Data: No adverse reproductive effects are anticipated
- Skin sensitization: Is not a skin sensitizer

11.2 Other information: None

RBM HOLDWASH-HD - MATERIAL SAFETY DATA SHEET

SECTION 12 – ECOLOGICAL INFORMATION

12.1 Toxicity:	96 hour LC50 (Tilapia Nilotica):	22.6 mg/l
	96 hour LC50 (Rainbow trout):	20 mg/l
	48 hour EC50 (Daphnia magna):	27 ppm
	72 hour EC50 (Raphidocelis subcapitata)	40 mg/l

12.2 Persistence and degradability:	Readily Bio-degradable
12.3 Bio-accumulative potential:	Not Available
12.4 Mobility in soil:	Not Available
12.5 Results of PBT and vPvB assessment:	No data
12.6 Other adverse effects:	None

With reference to MEPC 63/23/Add. 1, Annex 24 Resolution MEPC 219(63) as adopted on March 02, 2012; RBM HoldSolutions declares herewith that the hold cleaning product referred to as RBM HoldWash HD and marketed by RBM HoldSolutions, the nature of which is covered in this SDS meets the criteria as non-harmful to the marine environment as described under section 1.7.5 of above resolution.

This statement is not valid for any other solutions or chemicals, which may be put on the market with identical or similar product name. The names of RBM HoldSolutions and RBM HoldWash HD must be mentioned on the product label and in the Safety Data Sheet.

SECTION 13 – DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:	Consult your local regional authority for disposal options
13.2 Additional Information:	Avoid release into the environment

SECTION 14 – TRANSPORT INFORMATION

14.1 ADR Classification:	Not Regulated
14.2 DOT (Department of Transportation):	Not Regulated
14.3 TDG (Canada Transport of Dangerous Goods):	Not Regulated
14.4 ICAO/IATA:	Not Regulated
14.5 IMO/IMDG:	Not Regulated

SECTION 15 – REGULATORY INFORMATION

15.1. US Federal Information:

OSHA:	This material is classified as hazardous under OSHA regulations (29 CFR 1910.1200). Hazardous classification: Acute Health Hazard / Combustible liquid
USA TSCA (Toxic Substance Control Act):	All chemicals listed
US CERCLA Reportable quantity (RQ):	N/Ap
SARA TITLE III: Sec.302:	40 CFR 355 No extremely hazardous substances are present in this material.
SARA TITLE III: Sec.313:	40 CFR 372 Contains no materials subject to reporting requirements of SARA (III) Section 313
SARA TITLE III: Sec.311 & 312:	40 CFR 370 MSDS Requirements. Hazardous Classes: Fire Hazard; Acute Health Hazard.

Under SARA Section 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is low, for extremely hazardous substances and 10,000 pounds for all the other hazardous chemicals.

US State Right to Know Law

Proposition 65 California Safe Drinking Water and Toxic Enforcement Act of 1986: This product is not known to contain any chemicals currently listed as carcinogens or reproductive toxins under California Proposition 65 at levels under which would be subject to the proposition.

Other states

Ingredient(s)	CAS	CA	MA	MN	NJ	PA	RI
d-Limonene	5989-7-5 227-813-5	No	No	No	No	No	No
Distillate(petrol) hydrotreated light	64742-478 265-149-8	No	No	No	No	No	No
Monoethanolamine	141-43-5 265-149-8	Yes	Yes	Yes	Yes	Yes	Yes

RBM HOLDWASH-HD - MATERIAL SAFETY DATA SHEET

SECTION 15 – REGULATORY INFORMATION – CONT'D

International information

Canadian Environmental Protection Act (CEPA): All ingredients listed appear on the Domestic Substances List(DSL)

15.2 Safety, health and environmental regulations/legislation specific for the substance or mixture

European Union (EINECS/ELINCS)

All chemicals listed

Canada WHMIS Classification

Class B 3, Combustible Liquid, Class D 2B (Mild Eye irritation)

15.3 Chemical Safety Assessment:

COMBUSTIBLE LIQUID, ASPIRATION HAZARD, MILDLY IRRITANT TO EYES

SECTION 16 – OTHER INFORMATION

LEGEND:

ACGIH	American Conference of Governmental Industrial Hygienists
NA	Not applicable/ Not available
AICS	Australian Inventory of Chemical Substances – NIOSH (National Institute for Occupational Safety and Health)
ANSI	American National Standards Institute
ND	Not determined
ATM	Atmosphere (pressure unit) - NFPA (National Fire Prevention Association)
BOD	Biological oxygen demand - NTP (National Toxicology Program)
CAS	Chemical Abstracts Service - OC open cup
CC	Closed cup - OSHA (Occupational Safety and Health Administration)
CDTA	Chemical Diversion and Trafficking Act
COC	Cleveland Open Cup – PEL (Permissible exposure limit)
COD	Chemical oxygen demand – PPB (Parts per billion)
CFR	Code of Federal Regulations – PPM (Parts per million)
CPR	Cardio-pulmonary resuscitation – PSI (Pounds per square inch)
DEA	Drug Enforcement Agency - RCRA (Resource Conservation and Recovery Act)
DOT	Department of Transportation - RQ (Reportable quantity)
DSCL	Dangerous Substances Classification and Labeling – RTK (Right to Know)
EEC	European Economic Community – SARA (Superfund Amendments and Reauthorization Act)
FDA	Food and Drug Administration - STEL (Short-term exposure limit)
IARC	International Agency for Research on Cancer – TCC (Tagliabue Closed Cup)
LC50	Median lethal concentration - TSCA (Toxic Substances Control Act)
LD50	Median lethal dose - TWA (Time-weighted average)
LEL	Lower explosive limit
UEL	Upper explosive limit

Risk Phrases and Safety Phrases:

R10	Flammable.
R34	Causes burns
R38	Irritating to skin.
R43	May cause sensitization by skin contact.
R50/53	Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.
S25	Avoid contact with eyes.
S36	Wear suitable protective clothing.
S46	If swallowed, seek medical advice immediately and show this container or label

Hazard statement(s) and Precautionary statement(s):

H226	Flammable liquid and vapor.
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	May cause an allergic skin eye damage
H331	Toxic in contact with skin
H332	Harmful if inhaled
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects
P210	Keep away from heat, sparks, open flame and hot surfaces - No smoking.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P370+P378	-- In case of fire: Use water or dry foam for fire suppression
P403+P235	-- Store in a well-ventilated place. Keep cool.
P301+P310	-- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P331	DO NOT induce vomiting

Additional information and disclaimer:

Information for this Safety Data Sheet was prepared from sources considered reliable. While every effort has been made to ensure full disclosure of product hazards, data are not available in some cases and is so stated where applicable. The manufacturer and/or supplier assume no liability or responsibility howsoever and no warranty is expressed or implied in the event that the product is mishandled, misused and/or instructions are not strictly observed. Each user of the product described herein is encouraged to study and fully understand the information and instructions contained in this MSDS.

Under reference to MEPC 63/23/Add. 1, Annex 24 Resolution MEPC 219(63) as adopted on March 02, 2012; RBM HoldSolutions declares herewith that the hold cleaning product referred to as RBM HoldWash-HD and marketed by RBM HoldSolutions, the nature of which is covered in this SDS meets the criteria as non-harmful to the marine environment as described under section 1.7.5 of above resolution.

Prepared by:
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RBM BILGECOAT

MATERIAL SAFETY DATA SHEET

SECTION 1 – MATERIAL IDENTIFICATION AND USE

Product Identifier: RBM BilgeCoat Product Code(s): ML-BC18C Product Use: Caustic Wash Chemical Family: Proprietary complex mixture/preparation CAS Number: N/Ap Information Telephone #: +1 (604) 531-8333 24 Hr. Emergency Tel #: Refer to supplier	Supplier's Name and Address: RBM HoldSolutions Unit 101-2762 190th Street Surrey, British Columbia, Canada V3S 3W6
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SECTION 2 – HAZARDS IDENTIFICATION

2.1 Classification of the mixture

Eye Damage/ Eye irritation (Category 2A)

2.2 Label elements

Label elements

Hazard pictogram(s):



Signal Word(s): Warning

Danger Hazard statement(s): Causes serious eye irritation

Precautionary Statements

Prevention: Wash hands thoroughly after handling
 Wear eye protection/face protection.
 Keep only in original container

Response: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call your doctor.
 Absorb spillage to prevent material damage.

Storage: Store in a well-ventilated place. Keep cool. Dispose of contents/container in accordance with local regulations.

2.3 Other hazards

Potential Health Effects

Skin: Prolonged contact may cause skin irritation.

Ingestion: May cause gastrointestinal disturbances including irritation, nausea, & diarrhea if ingested in large quantities.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient(s)	% W/W	CAS NO.
Sodium Hydroxide Solution	7-13 %	1310-73-2

The specific chemical identity is being withheld as a trade secret.

SECTION 4 – FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: Immediately remove the affected victim to fresh air. If symptoms persist, obtain medical attention.

Skin: Remove contaminated clothing. Wash affected skin with soap and water. See physician if irritation develops.

Eyes: Check for and remove contact lenses. Do not rub eyes. Immediately flush with warm, running water holding the eyelids apart, for 15 minutes. Call a physician if irritation develops.

Ingestion: If ingested, may cause loose stool. Rinse mouth and drink 2-3 glasses of water. Do not induce vomiting. Consult a physician immediately.

Self-protection of the first aider: Treat symptomatically.

4.2 Most important symptoms and effects, both acute and delayed: Serious damage to eyes.

4.3 Indication of the immediate medical attention and special treatment needed: Treat symptomatically.

RBM BILGECOAT - MATERIAL SAFETY DATA SHEET

SECTION 5 – FIRE AND EXPLOSION HAZARD DATA

5.1 Extinguishing media

Suitable Extinguishing Media: This is a water-borne product. Use an extinguishing agent suitable for the surrounding fire.

Unsuitable Extinguishing Media: Not applicable

5.2 Special hazards arising from the substance or mixture: None.

5.3 Advice for fire-fighters: Not applicable.

5.4 Additional Information: Not available.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel: Small spill: Use appropriate tools to wipe up the product. Observe all personal protection equipment recommendations. Rinse contaminated area with water or absorb with an inert dry material and place in a waste disposal container. Product can be neutralized with a weak acid, such as citric acid. Large spill: Stop the leak if possible. Ventilate the area involved. Block release of chemical from sewer or storm drains. Contain and clean-up the spill. Observe all personal protection equipment recommendations. Ensure personal protection during removal of spillages. Local authority should be advised if significant spill cannot be contained. For emergency responders: Use personnel protection recommended in Section 8

6.2 Environmental precautions:

Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground

6.3 Methods and material for containment and cleaning up:

Do not release large quantities into surface water or drains. Wear suitable protective equipment: Gloves and eye protection.

Rinse remaining liquid with water.

6.4 Reference to other sections: See Also Section 7, 8, 13.

6.5 Additional Information: For waste Disposal: Follow local regulations for discharge of waste effluent.

SECTION 7 – HANDLING AND STORAGE

7.1 Precautions for safe handling:

Use in well-ventilated areas. Do not eat and drink in work area. Wash hands after using.

7.2 Conditions for safe storage, including any incompatibilities:

Store in a well-ventilated place. Keep container tightly closed. Keep away from oxidizing & reducing agents, or strong acids.

Storage Life: Not available. It is recommended to use within 1 year.

Incompatible materials: oxidizing agents, strong acids or reducing agents.

7.3 Specific end use(s):

To increase shelf-life keep in a closed container away from incompatible materials. Do not store at temperatures above 45°C.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 Control parameters

8.1.1 National Limit Values:

Components	CAS #	OSHA PEL	ACGIH TLV
Sodium Hydroxide Solution	1310-73-2	2 mg/m3	2 mg/m3

8.1.2 Monitoring Procedure: Not Available

8.1.2 Air contaminants occupational exposure and biological limit value: Not available for this product.

8.1.3 Relevant PNECs and DNELs: No PNECs and/or DNELs are available for this product.

8.2 Exposure controls

8.2.1 Appropriate engineering controls: Allow sufficient ventilation during & after use, to prevent vapor accumulation.

8.2.2 Personal protection equipment

Protective Handwear: Impervious gloves recommended.

Protective Eyewear: Goggles, safety face shield optional.

Other protective clothing: Not required.

Respiratory Apparatus: Not required under normal use conditions. Where ventilation exposure level may be exceeded, use an approved NIOSH respirator.

Local/mechanical exhaust: Not normally required if good ventilation is maintained.

8.2.3 Environmental Exposure Controls:

Do not allow into open waterways and ground water systems.

RBM BILGECOAT - MATERIAL SAFETY DATA SHEET

SECTION 9 – PHYSICAL DATA

Physical State:	Liquid	Vapor Pressure:	N/Av
Appearance:	Yellowish	Specific Gravity:	1.03
Odour:	Mild	Solubility in Water:	100%
Odour Threshold:	N/Av	Partition Coefficient:	N/Av
PH Factor:	11.05	Auto-Ignition Temperature:	N/Av
Freezing Point:	-2°C	Viscosity:	N/E
Boiling Point:	N/Av	Oxidizing Property:	No
Flash Point / Method:	N/Av	% Volatile:	N/Av
Evaporation Rate:	N/Av	Decomposition Temperature:	N/Av
Flammability:	None	Upper Flammable / Exposure Limits:	N/Av

SECTION 10 – STABILITY AND REACTIVITY DATA

- 10.1 Reactivity:** Keep away from strong oxidizing agents, strong acids or reducing agents.
- 10.2 Chemical stability:** Stable under normal conditions.
- 10.3 Possibility of hazardous reactions:** Highly reactive with: strong oxidizing agents, strong acids or reducing agents.
- 10.4 Conditions to avoid:** Excessive heat
- 10.5 Incompatible materials:** Strong oxidizing agents, strong acids or reducing agents.
- 10.6 Hazardous Decomposition Product(s):** No known hazardous decomposition products.
- 10.7 Hazardous polymerization:** Will not occur

SECTION 11 – TOXICOLOGICAL INFORMATION

Information on toxicological effects

11.1.2 Mixtures

Acute Oral Toxicity Estimate:	LD 50 (Oral, rat) ≥ 5,000 mg / kg
Acute Dermal Toxicity Estimate:	Not available
Skin Corrosion/Irritation:	Prolonged contact with skin may cause irritation.
Serious eye damage/irritation:	May causes eye damage
Respiratory or Skin sensitization:	No
Mutagenicity Data:	No adverse reproductive effects are anticipated
Carcinogenicity Data:	The ingredients are not classed as carcinogenic by ACGIH, IARC, OSHA
Reproductive Data:	No adverse reproductive effects are anticipated. Not Mutagenic.
STOT-single exposure:	No
STOT- repeated exposure:	No
Aspiration Hazard:	No

11.2 Other information: None

SECTION 12 – ECOLOGICAL INFORMATION

12.1 Toxicity:	Estimated Acute (trout): 96 hour LC ₅₀ >500 mg/l
12.2 Persistence and degradability:	All raw materials were found to be biodegradable
12.3 Bioaccumulative potential:	Not Available
12.4 Mobility in soil:	Not Available
12.5 PBT and vPvB assessment:	Not Available
12.6 Other adverse effects:	None

SECTION 13 – DISPOSAL CONSIDERATIONS

- 13.1 Waste treatment methods:** Consult your local regional authority for disposal options
- 13.2 Additional Information:** Avoid release to the environment.

SECTION 14 – TRANSPORT INFORMATION

14.1 TDG	Not Regulated
14.2 DOT	Not Regulated
14.3 ADR	Not Regulated
14.4 ICAO/IATA	Not Regulated
14.5 IMO/IMDG	Not Regulated

RBM BILGECOAT - MATERIAL SAFETY DATA SHEET

SECTION 15 – REGULATORY INFORMATION

15.1. US Federal Information:

OSHA: This material is classified as hazardous under OSHA regulations (29 CFR 1910.1200) (Hazcome 2012).

Hazardous classification:

H 320 Causes Eye irritation (Category 2A)

USA TSCA (Toxic Substance Control Act): All chemicals listed

US CERCLA Reportable quantity (RQ): N/Ap

SARA TITLE III: Sec.313. 40 CFR 372 This substance contains no materials subject to the reporting requirements of SARA (III) Section 313

Clear Water Act: None of the ingredients are listed as Hazardous, Priority Pollutants or toxic pollutants

US State Right to Know Law

Proposition 65 California Safe Drinking Water and Toxic Enforcement Act of 1986: This product is not known to contain any chemicals currently listed as carcinogens or reproductive toxins under California Proposition 65 at levels under which would be subject to the proposition.

State: None of the ingredients are present on state list from CA, PA, MN, MA, FL, NJ.

15.2. International regulations:

Australian: Listed on Australian Inventory of Chemical Substances(AICS)

New Zealand(NZIoC): Listed

China(IECSSC): Listed

Japan(ENCS): Listed

Korea (ECL): Listed

Canada DSL/NDSL: Listed – DSL

15.3 VOC content: N/Av

15.3 Chemical Safety Assessment: No chemical safety assessment has been carried out for mixture by the supplier

SECTION 16 – ADDITIONAL INFORMATION

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