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Comments:

Please call 956/765-4065 if you have problems receiving this fax.

Phone conversation 20 Oct 01 with Ginny
EOG will not use this methode due to cost
but will utilize regular sandblasting. Sandblasting
should take place within next 2 weeks & take 1 week

WESTMIN INDUSTRIAL SUPPLIES LTD.

WHAT IS SODA BLASTING?

Soda blasting is an environmentally friendlier way of removing paint, dirt, coatings and other surface contaminants that does not cause damage to the surfaces being cleaned. The action of the sodium bicarbonate used does not cause heat buildup, sparks, or abrasion to substrate. Sodium bicarbonate is also water soluble and in most cases it can be disposed of through conventional drainage systems. The only material that needs to be disposed of is the contaminant removed which can be separated by dissolving the blast media in water and the use of a filter or centrifuge to separate the contaminant from the solution.

HOW SODA BLASTING WORKS AND ITS ADVANTAGES

The sodium bicarbonate used in the blasting process is a larger particle than the baking soda used in the food industry, although it is the same purity. The particles are propelled by compressed air through specialized blasting machines. Air pressures can be varied from as low as 20 psi on soft bases to 120 psi or more on hard surfaces. Water can be used as either a dust suppresser or the propellant for some decontamination and depainting. Unlike abrasive blast media sodium bicarbonate particles remove contaminants by the energy released when the particles explode as they contact the surface to be cleaned. This non abrasive action allows it to be used on surfaces that currently popular abrasive media would damage i.e.: aluminum, stainless steel, brick, stone, glass, fiberglass, wood, plastic, seals, bearings, spines, radiator cores, hydraulic cylinders and in some cases shutdown of electric motors and pumps is not necessary. Since there is no heat buildup warpage is eliminated and its nonflammable properties allow sodium bicarbonate to be used for cleaning in the petroleum industry where other methods could not be used. Sodium bicarbonate breaks down hydrocarbons which makes it an excellent method of cleaning engines and engine parts or other areas where oil and grease are present. Another major advantage is the fact sodium bicarbonate does not break the surface tension of metals, thus the problem of flash rusting is eliminated.

GRAFFITI REMOVAL

The removal of graffiti is a difficult and costly operation using many conventional methods. Sodium bicarbonate provides a very valuable alternative to these methods. Since it is a nonabrasive media it can be used to remove graffiti from painted surfaces, in some cases without damage to the base paint. On brick, sandstone, marble and other sensitive surfaces, it will remove the graffiti without leaving any tags. With the use of a wet blasting system it provides a dust free method of cleaning. Care must still be taken when setting the pressure, air flow, and media flow as damage can still occur from improper application. Testing in a non visual area is still a good idea.

CLEAN UP AND CONTAMINANT DISPOSAL

Sodium bicarbonate has a pH of 8.4 and can be disposed of in most waste water treatment systems. Disposal regulations should always be followed as this will vary depending on the contaminant being removed. Paint chips and other material removed that are not water soluble can be separated by dissolving the spent media and using a filtration system. Normally only the hazardous material removed needs to be disposed of in special areas. Sodium bicarbonate can be neutralized by either a vinegar/water solution or just water dilution.

DISADVANTAGES

Like every thing else sodium bicarbonate has some disadvantages. Dry blasting creates dust that may have to be contained. Other than the material being removed this dust is not hazardous as sodium bicarbonate is not toxic. When blasting in an area where vegetation is growing sodium bicarbonate must be neutralized, usually with water dilution or a mild vinegar/water solution as it can raise the alkalinity of the soil. The fact that it breaks down hydrocarbons means that extreme care must be taken when used on or near asphalt. Sodium bicarbonate will leave a residue and thorough rinsing must be done to ensure a clean surface is left.

MARINE APPLICATIONS

Remove dirt, grease, barnacles, anti-fouling paint from hulls of aluminum, wood, fiberglass or steel vessels	- Process will not damage substrate and sodium bicarbonate helps meet containment requirements. Process can remove one layer at a time
Degrease, clean bilges	- Soluble nature sodium bicarbonate allows removal of spent media with bilge pump
Clean engine components	- Process will not damage bearings, seals or plastics
Clean or repaint radio/radar masts and antennas	- Will not damage substrates of aluminum or plastics
Replace hand cleaning and hand tooling	- The soda blasting process is faster, reducing manual labor

ARCHITECTURAL APPLICATIONS

Remove graffiti from concrete, brick, trees, monuments	- Will not damage substrate - minimum containment is required
Remove dirt, soot, carbon from ornamental metals including brass and copper	- Will not damage substrate - minimal containment is required
Remove smoke, soot, smoke odor from buildings and equipment	- Will not damage substrate or equipment
Remove dirt, soot, carbon from stone surfaces including limestone, brick, granite and concrete	- Will not damage substrate - minimal containment is required
Removes surface corrosion, dirt from aluminum window frames	- Will not damage metal and glass
Cleans and removes failing finishes on wood	- Reduces the need for labor intensive sanding
Speeds cleaning in livestock facilities	- Increase efficiency of pressure washing systems
Cleans architectural structures without masking or removing glass, aluminum surfaces, rubber or plastic	- Reduction of preparatory time
Cleans ceramic tile	- Will not damage tile or grouting
Polish chrome	- Process will remove surface corrosion and polish chrome without substrate damage

FOOD PROCESSING APPLICATIONS	
Clean FDA/USDA inspected areas	- Blasting grade sodium bicarbonate is food grade
Clean carbon buildup from baking trays	- Will not cause damage to substrate
Clean areas where residual contamination cannot be tolerated.	- Sodium bicarbonate is 100% water soluble for easy clean up
Clean grease, oil, process residue or paint from rotating equipment	- Cleaning can be done without paint removal. Sodium bicarbonate will not harm bearings, seals and packing. Some equipment can be cleaned while in operation.
Clean grease, oil or process	- Sodium bicarbonate is 100% water soluble and food grade

Clean remote areas	- Westminster equipment is portable and allows for user to clean equipment in place.
Replace hand-cleaning and hand tooling	- Soda blasting is faster, reducing manual labor
Clean TEFC-rated motors	- The cleaning process will not harm seals and bearings
Clean area with rubber gaskets	- The cleaning process will not harm rubber
Remove ink buildup on printing press rollers	- Will not damage rollers or bearings
Remove tar buildup on asphalt shingle processing equipment	- Will not harm bearings or rollers

TRANSPORTATION and INDUSTRIAL EQUIPMENT APPLICATIONS	
Paint removal	- Will not damage aluminum, stainless steel, fiberglass, glass, rubber and chrome
Clean and remove oil and grease from engine compartments	- Will not damage bearings, cast aluminum, cast iron, rubber, wiring and radiators.
Clean parts	- Will not damage threads, cast aluminum, bearings and seals.
Clean fuel tanks	- Removes fuel stains on aluminum and stainless steel tanks. Non sparking or heat generating process
Cleans asphalt paving equipment	- Removes built up asphalt without removing paint or hurting bearings and other sensitive areas
Cleans waste trucks and storage bins	- Degreases and cleans without damage to hydraulics, glass, bearings and paint
Railway Locomotives	- Removes soot, diesel fuel stains, failing paint and other contaminants.
Battery connections	- Cleans battery terminals and neutralizes spilled acid.
Electrical connections	- Removes photoresist and other process residue without hurting substrate

SODIUM BICARBONATE

MSDS Number: S2954 --- Effective Date: 06/22/99

1. Product Identification

Synonyms: Sodium hydrogen carbonate; sodium acid carbonate; baking soda; bicarbonate of soda

CAS No.: 144-55-8

Molecular Weight: 84.01

Chemical Formula: NaHCO₃

Product Codes:

J.T. Baker: 3506, 3508, 3509, 3510, 5597

Mallinckrodt: 7285, 7396, 7397, 7412, 7749, 7903

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Sodium Bicarbonate	144-55-8	99 - 100%	No

3. Hazards Identification

Emergency Overview

As part of good industrial and personal hygiene and safety procedure, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes and clothing.

J.T. Baker SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 0 - None

Flammability Rating: 0 - None

Reactivity Rating: 1 - Slight

Contact Rating: 1 - Slight

Lab Protective Equip: GOGGLES; LAB COAT

Storage Color Code: Orange (General Storage)

Potential Health Effects

Inhalation:

High concentrations of dust may cause coughing and sneezing.

Ingestion:

Extremely large oral doses may cause gastrointestinal disturbances.

Skin Contact:

No adverse effects expected.

Eye Contact:

Contact may cause mild irritation, redness, and pain.

Chronic Exposure:

No information found.

Aggravation of Pre-existing Conditions:

No information found.

4. First Aid Measures

Inhalation:

Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:

Give several glasses of water to drink to dilute. If large amounts were swallowed, get medical advice.

Skin Contact:

Not expected to require first aid measures.

Eye Contact:

Wash thoroughly with running water. Get medical advice if irritation develops.

5. Fire Fighting Measures

Fire:

Not considered to be a fire hazard.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire.

Special Information:

Use protective clothing and breathing equipment appropriate for the surrounding fire.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8.

Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. Small amounts of residue may be flushed to sewer with plenty of water.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

None established.

Ventilation System:

In general, dilution ventilation is a satisfactory health hazard control for this substance. However, if conditions of use create discomfort to the worker, a local exhaust system should be considered.

Personal Respirators (NIOSH Approved):

For conditions of use where exposure to the dust or mist is apparent, a half-face dust/mist respirator may be worn. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

White crystalline powder.

Odor:

Odorless.

Solubility:

7.8g/100g water @ 18C (64F).

Density:

2.2

pH:

8.3 (0.1 molar @ 25C (77F))

% Volatiles by volume @ 21C (70F):

0

Boiling Point:

Not applicable.

Melting Point:

60C (140F)

Vapor Density (Air=1):

No information found

Vapor Pressure (mm Hg):

No information found.

Evaporation Rate (BuAc=1):
No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Gaseous carbon dioxide.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Reacts with acids to form carbon dioxide. Dangerous reaction with monoammonium phosphate or a sodium-potassium alloy.

Conditions to Avoid:

Heat, moisture, incompatibles.

11. Toxicological Information

Investigated as a mutagen, reproductive effector. Oral rat LD50: 4220 mg/kg. Irritation data: human, skin. 30mg/3D-I mild, rabbit, eye, 100 mg/30 S, mild.

-----\Cancer Lists\-----

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Sodium Bicarbonate (144-55-8)	No	No	None

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----
 Ingredient TSCA EC Japan Australia
 Sodium Bicarbonate (144-55-8) Yes Yes Yes Yes

-----\Chemical Inventory Status - Part 2\-----
 Ingredient --Canada--
 Korea DSL NDSL Ph.1.
 Sodium Bicarbonate (144-55-8) Yes Yes No Yes

-----\Federal, State & International Regulations - Part 1\-----
 Ingredient -SARA 302- -SARA 313-
 RQ TPQ List Chemical Catg.
 Sodium Bicarbonate (144-55-8) No No No No

-----\Federal, State & International Regulations - Part 2\-----
 Ingredient -RCRA- -TSCA-
 CERCLA 261.53 8(d)
 Sodium Bicarbonate (144-55-8) No No No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
 SARA 311/312: Acute: No Chronic: No Fire: No Pressure: No
 Reactivity: No (Pure / Solid)

Australian Hazchem Code: No information found.

Poison Schedule: No information found.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 1 Flammability: 0 Reactivity: 0

Label Hazard Warning:

As part of good industrial and personal hygiene and safety procedure, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes and clothing.

Label Precautions:

None.

Label First Aid:

Not applicable.

Product Use:

Laboratory Reagent.

Revision Information:

New 16 section MSDS format, all sections have been revised.

Disclaimer:

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