Replace All Your Cleaners with One Product!

- Extra Heavy Duty
- USDA Authorized
- Biodegradable
- Non-Flammable
- Non-Corrosive
- Non-Abrasive
- No Harsh Fumes

PRODUCT CODE: 62080-7070

QUALITY CONTROL

To ensure quality control and assurance, all blending is controlled under Additives Plus’s standards. Each individual batch of Add Pak is rigorously tested for conformance with product and industry specifications prior to storage, packaging, or shipment. This laboratory analysis is thoroughly conducted by both Additives Plus and our blending facilities. A Certificate of Analysis for each lot is produced and is available to customers.

TECHNICAL CONTACT INFORMATION

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www.additivesplus.com

PRODUCT DESCRIPTION AND APPLICATIONS

Locomotive Cleaner™ takes an entirely new approach to cleaning. Additives Plus’s innovative chemistry provides a product that outperforms the leading national heavy-duty industrial cleaner in every type of cleaning job tested. Locomotive Cleaner does not contain caustics, acids, or volatile organic compounds such as glycol ethers, d-limonene or terpenes. It is mild in terms of aggressiveness toward human tissue and has very low odor and vaporization levels, minimizing the problem of worker exposure to fumes. It is biodegradable and contains no ingredients regulated by DOT. No ingredients are CERCLA hazardous (40 CFR 302.4) or SARA toxic (40 CFR 372, subpart D), and unused Locomotive Cleaner would not be considered a hazardous waste (40 CFR 261, subparts C, D, Appendix VIII).

Compare the Locomotive Cleaner MSDS with any other brand to convince yourself that Locomotive Cleaner doesn’t harm any materials commonly encountered, then test it to convince yourself of its cleaning superiority.

PRODUCT SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual</td>
<td>Purple liquid</td>
</tr>
<tr>
<td></td>
<td>(custom dyes may be added)</td>
</tr>
<tr>
<td>Odor</td>
<td>Slightly bitter or mild detergent</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.02-1.03</td>
</tr>
<tr>
<td>Stability</td>
<td>Stable</td>
</tr>
<tr>
<td>pH</td>
<td>11.0-12.4</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>220°F</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>34°F</td>
</tr>
</tbody>
</table>

Full Strength
Heavy Degreasing
Greasy/oily factory equipment, oil delivery vehicles, grimy engines, construction equipment, very dirty shop area, coal hoppers and locomotives.

3:1 to 10:1
General Degreasing
Heavy Cleaning
Parts washers, trucks/trailers, machinery, shop floors, shop walls, parts preparation, and construction equipment.

10:1 to 30:1
General Purpose
Parts Cleaning
Routine work, surface cleaning, floor cleaning, equipment cleaning, and preparation.

20:1 to 40:1
Janitorial Cleaning
Household Cleaning
Pressure Washing
Appliances, toilets, counter tops, floors, general vehicle washing, bathrooms, and soap scum.

150:1 to 200:1
Glass Cleaner
Windows, windshields, and mirrors.
Locomotive Cleaner™ is a unique, versatile, multifunctional product that gets outstanding results on most types of tough cleaning chores. At full strength, Locomotive Cleaner is formulated with enough cleaning power to handle locomotives, coal hoppers, and roundhouse floors, but without the high alkaline or volatile organic content of popular national brands. Diluted, Locomotive Cleaner can handle most cleaning and degreasing applications.

The Locomotive Cleaner formulation was originally developed, not surprisingly, as a locomotive cleaner for the railroad industry. Locomotives are very difficult to clean and the railroads had not found a product that would satisfactorily clean them in brushless locomotive washing facilities. Additives Plus’s task was not only to develop a product that could clean locomotives, but also to make the product work with a spray-on, rinse-off, “touchless” washing technique and to make the product environmentally friendly. There were other requirements on the railroads’ list, including that the cleaner not dull paint and that it be cost competitive with currently used hazardous rated products which were less than effective.

Additives Plus initially worked with the current conventional technology, which is based on very aggressive, highly caustic and acidic formulation. We improved these formulas, but did not achieve our objectives. After extensive research and development, we developed an entirely new chemical approach that proved successful, and Locomotive Cleaner was born. Finally we had a cleaner that performed extremely well at removing the difficult residue found on active locomotives, that was environmentally friendly and could be marketed at a reasonable cost.

Further testing indicated that Locomotive Cleaner would make an outstanding general purpose cleaner and degreaser. Locomotive Cleaner was tested on garage and warehouse floors, automobile engines, trucks, exhaust stacks, shower stalls, carpets, battery terminals, clothing, and many other applications. The results indicated that Locomotive Cleaner did a much better job than the leading brands on the market.

Locomotive Cleaner:
- Removes exhaust stains and soot quickly, without leaving shadow stains.
- Dissolves away road film when used as a diluted pressure washer solution.
- Exhibits excellent rinseability, and contains dispersing polymers to prevent redeposition of loosened soils.
- Can be used effectively with hard water since it contains ingredients which tie up hardness compounds.

Locomotive Cleaner removes grease and oil without high alkalinity/pH, solvents, or any hazardous ingredients. Its proprietary blend of surfactants emulsifies oil and grease and then de-emulsifies — releasing the oil and grease which float to the top of the water phase — so that the oil and water can be treated or disposed of separately.

Locomotive Cleaner is USDA authorized, biodegradable, nonabrasive, non-flammable, low phosphates, is not classified as a hazardous material, and is very low in volatile organic content.
**ADVANTAGES**

- Locomotive Cleaner is a mild cleaner that does not burn human tissue. Locomotive Cleaner will not etch glass, aluminum, or counter tops. Locomotive Cleaner does not fade most pigments and will not dull or damage most paints or coatings if rinsed off in a reasonable amount of time.
- Locomotive Cleaner has no significant VOC content. Locomotive Cleaner has no flash point. Locomotive Cleaner will not attack or dissolve most solvent-soluble materials.
- Locomotive Cleaner is not classified as hazardous by the DOT. It has no reportable quantity. Locomotive Cleaner does not have to be inventoried under SARA Title III.
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**FEATURES**

- Locomotive Cleaner contains no caustics or acids.
- Locomotive Cleaner contains no solvents, glycol ethers, terpenes, or d-limonene.
- Locomotive Cleaner contains no DOT- or EPA-regulated ingredients.
- Locomotive Cleaner emulsifies oil and grease efficiently, then de-emulsifies in a relatively short period of time.
- Locomotive Cleaner has multifunctional physical/chemical properties.
- Locomotive Cleaner is fast acting and penetrating.
- Locomotive Cleaner works well in spray on/off applications with little or no wiping, brushing or scraping (as on vehicles, walls, floors, etc.). It saves time due to its ability to act rapidly without physical assistance or many repeat applications.

**BENEFITS**

- Locomotive Cleaner is safe to use, resulting in fewer personnel injuries (e.g., chemical burns and inhalation exposure), reportable injuries, workers’ comp claims, etc. It can be used to clean a wide variety of surfaces without the need for concern about avoiding certain areas, and it will not damage most clothing.
- Locomotive Cleaner does not present a significant odor or fume exposure problem. It can be used to clean in confined spaces such as shower stalls and bus interiors. Locomotive Cleaner does not present OSHA or fire regulation problems. Locomotive Cleaner can be used on most plastic surfaces, vinyl, and vinyl fabrics. Locomotive Cleaner will not fog Plexiglas.
- Spills and leaks do not present a major environmental threat. Locomotive Cleaner can be shipped in any quantity as Non-Hazardous.
- Oil and grease traps function properly with Locomotive Cleaner. You can treat and/or dispose of oil and water phases separately. The oil/water de-emulsification and separation is usually very complete, leaving a water phase that is relatively clean and neutral in pH. As a result your effluent treatment costs can be significantly lower with Locomotive Cleaner than with caustic or glycol-ether-based products.
- Locomotive Cleaner can replace several different cleaners. For example, in an automotive repair shop, it will do an outstanding job of cleaning floors, cleaning and degreasing engines in place, cleaning engine parts as a parts washer solution, cleaning brake pads, cleaning battery terminals, cleaning exhaust soot stains, washing vehicle exteriors, cleaning wheels and tires, cleaning windows, etc.
## PRODUCT COMPARISON CHART

<table>
<thead>
<tr>
<th>Property</th>
<th>Locomotive Cleaner</th>
<th>Major Oil Company Cleaner</th>
<th>Major Automotive Cleaner</th>
<th>Cleaner Distributed by a Major Oil Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>USDA Authorized</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Biodegradable</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>pH</td>
<td>11-12.4</td>
<td>13</td>
<td>9.5</td>
<td>13</td>
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<tr>
<td>Volatility</td>
<td>VOC=Nil</td>
<td>VOC=9.8%</td>
<td>VOC=8%</td>
<td>VOC=15%</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No Flash</td>
<td>No Flash</td>
<td>No Flash</td>
<td>No Flash</td>
</tr>
<tr>
<td>Fumes</td>
<td>Low</td>
<td>High</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>Environmentally Friendly</td>
<td>Yes</td>
<td>No</td>
<td>Doubtful</td>
<td>No</td>
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<tr>
<td>Non-Corrosive</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Non-Caustic</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Non-Acidic</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Non-Abrasive</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Low Phosphate</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>No Oily Residue</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Low Skin Irritation</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Water Soluble</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Compatible with Most Materials</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>Easily Disposed</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Will Not Damage Paint</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

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1Spray on Cleaner and spray off with cold water - no brushing
2Can pit and darken aluminum parts
3Can damage paint and aluminum
4Have a high pH, high caustic content and a high butyl ether content and will dull paint, etch aluminum, damage Formica type counters and fog some clear plastic.
OVERVIEW

PREPARATION: Apply Locomotive Cleaner to a dry surface. Do not wet the surface to be cleaned with water prior to applying Locomotive Cleaner.

APPLICATION: Apply Locomotive Cleaner with a low-pressure sprayer with a fan-type nozzle in an even, back-and-forth, horizontal motion, starting at the bottom and moving up. It is usually best to apply Locomotive Cleaner to 1/4-1/3 of a side at a time prior to rinsing. However, with a very thorough, even application, an entire side can be done in one application.

DWELL TIME: Allow Locomotive Cleaner to remain on the surface of the locomotive for at least 3-5 minutes prior to rinsing off a section.

RINSE: Rinse the locomotive surface with high-pressure water from pressure washing equipment at, at least 2000psig at the spray nozzle. Hot water improves both the cleaning and rinsing effectiveness, but is not a requirement. Use a fan or wedge type nozzle and rinse from the top down in even, horizontal back-and-forth motions to avoid vertical streaking.

FINISH: Capture and treat the run-off from the locomotive cleaning operation, if required by local, state or federal regulations, or company policy.

EQUIPMENT

Locomotive Cleaner is best applied to a locomotive with a low-to-moderate pressure foaming mechanism. Line pressure should be in the range recommended by the foam equipment manufacturer. This is usually in the range of city water pressure, or 30-100psig. Therefore, city water pressure can be used as the motive force to both drive water of dilution through an in-line mixer and suck Locomotive Cleaner into the line in advance of the foamer. Alternatively, Locomotive Cleaner can be applied directly to the locomotive at full-strength with nearly any type of low-pressure sprayer. Locomotive Cleaner should be rinsed off using a high-pressure sprayer/washer that delivers at least 2000psig at the nozzle discharge. Units such as those made by Landa and Hotsy are representative of this type of pressure washer recommended. Fan spray-type or wedge-type nozzles can be used for both foam-on and rinse-off operations. Material of construction for pumps, lines, valves, etc. should be mild steel, stainless steel, cast iron or plastic/polymeric.

CLEANING PROCEDURE

Apply Locomotive Cleaner with a low-pressure sprayer with a fan-type nozzle either as a diluted or full-strength foam. Concentrations can be as low as 20%-40% volume dilutions with water for high pressure, heated-rinse-water, automatic washing facilities or as high as 50%-100% for manual spray/rinse operations. Temperatures of the cleaner and water should be at least 50°F; however, cleaning efficiency improves as the temperature of the water/cleaner is increased up to about 125°F.

Apply Locomotive Cleaner with an even, back-and-forth, horizontal motion, starting at the bottom of the locomotive and moving up. It is usually best to apply Locomotive Cleaner to 1/4-1/3 of a side at a time prior to rinsing. However, with a very thorough, even application, an entire side can be done in one application. Although the cleaner may dry before the side is totally rinsed, only water evaporates from the surface of the locomotive since Locomotive Cleaner’s active ingredients are non-volatile. As a result, Locomotive Cleaner will still clean and rinse effectively after it dries.

Allow Locomotive Cleaner to remain on the surface of the locomotive for at least 3-5 minutes prior to rinsing off a section. This will provide time for Locomotive Cleaner’s active components to dissolve, emulsify and lift/remove oil, grease, grit, soot and road film prior to rinsing it off. The needed “dwell time” as it is called, and the best concentration of cleaner to use depends on the difficulty of the cleaning job. This is best determined by starting with full-strength Locomotive Cleaner and reducing the concentration in steps until cleaning performance begins to decline.

Do not wet the surface to be cleaned with water prior to applying Locomotive Cleaner. This simply dilutes the cleaner right at the surface to be cleaned. It is usually best to apply Locomotive Cleaner to a dry surface.

After the appropriate dwell time has been allowed, rinse the locomotive surface with high-pressure water from pressure washing equipment such as the types made by Landa, Hotsy and others, at least 2000psig at the spray nozzle is recommended. Hot water improves both the cleaning and rinsing effectiveness, but is not a requirement. Use a fan or wedge type sprayer nozzle and rinse from the top down in even, horizontal back-and-forth motions to avoid vertical streaking.

Capture and treat the run-off from the locomotive cleaning operation, if required by local, state or federal regulations, or company policy.

PROTECTIVE EQUIPMENT

Although Locomotive Cleaner is non-hazardous and has low levels of aggressiveness to human tissue, it is always wise to prevent cleaners from contacting skin and eye tissue for prolonged or repeated periods of time. Skin sensitization is always possible over time. Use of water resistant gloves,
At last...a Powerful Cleaner that contains No Hazardous ingredients and is STRONG ENOUGH TO CLEAN A LOCOMOTIVE but gentle enough for delicate fabrics.

boots and clothing and goggles or safety glasses plus a face shield and hard hat are recommended, especially for large jobs such as locomotive cleaning.

PROPER USE FOR HEALTH AND SAFETY
Where skin contact may occur, water-impervious gloves should be worn. Use goggles or full face shield when the danger of splashing exists. Wash any areas of skin contact thoroughly after use of this product. Avoid repeated or prolonged skin contact. Do not take internally. Clean up spills immediately. Keep containers tightly closed when not in use. Consult the MSDS for additional safety information.

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