TRAMOS® Industrial

CLEANER and DEGREASER

Distributor:
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TRAMOS is a concentrated product that can be used for the same cleaning and degreasing operations as **TRAMOS Economic** but has an added **organic corrosion inhibitor,** which protects metal surfaces for up to four weeks.

ADVANTAGES

- Non-Toxic
- Non-Flammable
- Contains no phosphates, acids, silicones and is non-butyl
- Safe to use on all kinds of metals, plastics, lacquer paints, floors, walls, ceilings etc.
- Biodegradable
- Easily removes oil, grease and dirt from surfaces
- Fast, intense cleaning action surpasses other cleaners' performance
- Removes unpleasant odors. Has a clean fresh smell.
- Leaves cleaned surfaces slightly anti-static and corrosion resistant for up to 4 weeks.
- Safe to use in high-pressure spray equipment, part washers, dip tanks, or ultrasonic baths as well as standard industrial cleaning machines.
- Very economical to use
- Low VOC (3.5 g/L concentrate, less than 1 g/L as used)

PROPERTIES

NFPA Hazard Class:	Health	0 (as used)
	Flammability	0
	Reactivity	0

VOC: < 1 G/L (as used)
pH: 12.9 (concentrate)
Flash point: None

METHOD OF ACTION

- TRAMOS Industrial penetrates the dirt, destroying the surface tension, easily dissolving organic substances and disintegrating many chemical compounds.
- The use of carbon chains in this system makes this cleaning agent completely biodegradable. The chemical reactions in TRAMOS Industrial completely disintegrate these linear carbon chains.
- Both cationic and non-ionic reducing agents are used, allowing TRAMOS Industrial to work very efficiently at low temperatures. The high pH-value 12.9 is partly caused by the cationic ingredients. This pH allows TRAMOS Industrial to clean solid washable surfaces without marring the substrate.
- The non-ionic ingredients increase the product's penetration into the dirt. It also decreases its static attraction to the substrate by encasing the dirt particles, preventing them from attaching to the surface.
- TRAMOS Industrial decomposes oil-based products. It separates oily substances into their water soluble and organic components, making easy removal from the substrate possible.
- TRAMOS Industrial contains no phosphates. The cationic and non-ionic ingredients work well in hard water since they are not sensitive to Calcium or Magnesium ions.

DIRECTIONS FOR USE

TRAMOS Industrial is generally used on unprotected steel & aluminum to inhibit oxidation for a limited period of time.

Problem: Degreasing Mechanical Parts, Engine Blocks, Removing Oil, Greases, Carbon, Paraffin, Liquid Paints and Uncured Resins
Dilution: 1:3 or 1:5

1. Spray the surface to be cleaned with diluted TRAMOS Industrial.
2. Allow 30-60 seconds for the product to work.
3. Remove dirt with stiff brush or other abrasive scouring pad.
4. Rinse with water.
5. Wipe dry with clean absorbent towels or, if necessary, use compressed air to dry thoroughly.

Cleaning Trains, Streetcars, Busses, Ferries

Problem: Black deposits on top of trains (electrical)
Dilution: 1:5 initially; may be reduced to 1:30 after several applications

1. Spray diluted TRAMOS Industrial on surfaces and thoroughly agitate with a brush
2. Allow 15 minutes for product to work after agitating with brush
3. Rinse well with water and repeat a 2nd time if necessary

Problem: External washing of all vehicles
Dilution: 1:5 initially; may be reduced to 1:30 after several applications

1. Spray diluted TRAMOS Industrial on vehicle, starting from the bottom to the top (to prevent streaking)
2. Brush it in (agitation or scrubbing is important)
3. Rinse well with water

NOTES FOR USING TRAMOS Industrial

- Whatever system is used for cleaning with TRAMOS Industrial, a mechanical action (brush, sponge, aeration of solution, ultrasonic, etc.) is required to break the surface tension of the dirt. Just soaking for an extended time will ***not*** be sufficient for cleaning.
- TRAMOS Industrial may be safely used in cleaning fountains, immersion or ultrasonic baths, parts washers, high-pressure cleaners, and other industrial cleaning machines
- TRAMOS Industrial is not flammable and can be safely heated. For immersion or ultrasonic baths we recommend 50°C/122°F to minimize the evaporation rate.
- TRAMOS Industrial is highly concentrated. If the product is not sufficiently diluted, a white haze or stripes can be left after drying especially on very smooth or shiny surfaces. This haze will disappear when the surface is treated again with the correct dilution.
- Rinsing all parts, pipes and surfaces is important so no residue remains. Rinsing with warm water is not necessary but will enhance the drying process.
- TRAMOS Industrial can be used in a “final cleaning” process to gain the corrosion inhibitive property after using another TRAMOS product.

OTHER TRAMOS PRODUCTS

TRAMOS Economic - General cleaning applications
TRAMOS Stripper - Paint removal including graffiti
TRAMOS Heavy Duty Cleaner - Heavy petroleum products such as tar and asphalt
TRAMOS Industrial Gel - Gel form of Industrial for difficult-to-coat surfaces
TRAMOS Aircraft Cleaner - Conforms to aircraft specifications
TRAMOS Aero Tech 2000 - Conforms to turbine engine cleaning specifications

STANDARDS

Meets European Community (EC) directives concerning biological degradability of surface-active substances.

DILUTION GUIDELINES

TRAMOS Industrial is effective *only* when diluted with water. The following dilution guideline provides suggested dilution ratios (TRAMOS Industrial **:** Water). This list is representative only and should be considered a guideline. Proper dilution ratios for specific applications should be determined by evaluative testing. Repeated use of TRAMOS Industrial on a surface may allow more dilute solutions to be applied.

1:3 Completely degrease extremely dirty surfaces or remove liquid paints, uncured resins or paraffins.
Manual cleaning operations using spray bottle with brush or sponge

1:5 Clean very dirty wall tiles, engines, soot or carbon deposits, machinery, mold
Remove grease or oil, clean paintbrushes
Recommended dilution for use in degreasing baths or immersion systems
Cleaning Oxygen Pipes with closed high-pressure circulation process

1:8 Remove nicotine deposits or insects
Clean exhaust systems, car interiors, conveyor belts

1:10 Clean ceilings, walls, doors, bathrooms and kitchens, office furniture and equipment; spot clean upholstery & carpets, industrial floors
For restaurant & food service equipment dilute with warm water (> 38°C/100°F)

1:20 For use with high pressure sprayers when cleaning engine blocks

1:30 Use in floor cleaning machines, carpet cleaning machines, and on outdoor furniture

1:150 Window washing; cleaning mirrors and other shiny surfaces

1:200 For commercial car washes with brush cleaning