



FOR ANY EMERGENCY, 24 HOURS / 7 DAYS, CALL:	1-800-654-6911 (OUTSIDE USA: 1-423-780-2970)
FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC®:	1-800-424-9300 (OUTSIDE USA: 1-703-527-3887)
FOR ALL SDS QUESTIONS & REQUESTS, CALL:	1-800-511-MSDS (OUTSIDE USA: 1-423-780-2347)

PRODUCT NAME: **PULSAR® PLUS ACID CLEANER 50**

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Arch Chemicals, Inc. 1200 Bluegrass Lakes Parkway Alpharetta, GA 30004	REVISION DATE:	05/27/2015
	SUPERCEDES:	09/24/2010
	MSDS Number:	000000023335
	SYNONYMS:	None
	CHEMICAL FAMILY:	Organic acid
	DESCRIPTION / USE	Calcium carbonate descaling
	FORMULA:	C3H6O3

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Skin corrosion	:	Category 1A
Serious eye damage	:	Category 1
Specific target organ toxicity - single exposure	:	Category 3

GHS Label element

Hazard pictograms	:	
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Signal word	:	Danger
Hazard statements	:	H314 Causes severe skin burns and eye damage. H335 May cause respiratory irritation.
Precautionary statements	:	Prevention: P260 Do not breathe vapours. P264 Wash hands thoroughly after handling. P271 Use only outdoors or in a well-ventilated area.



P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P363 Wash contaminated clothing before reuse.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P310 Immediately call a POISON CENTER or doctor/ physician.

P321 Specific treatment (see supplemental first aid instructions on this label).

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

Disposal:

P501 Dispose of contents/container in accordance with local regulation.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>CAS OR CHEMICAL NAME</u>	<u>CAS #</u>	<u>% RANGE</u>
LACTIC ACID	50-21-5	45 - 55
Water	7732-18-5	45 - 55

SECTION 4. FIRST AID MEASURES

Inhalation:	IF INHALED: Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops. If not breathing, give artificial respiration. Call for medical assistance.
Skin Contact:	IF ON SKIN: Immediately flush skin with plenty of water for 15 minutes. If clothing comes in contact with the product, the clothing should be removed immediately and laundered before re-use. Seek medical attention if irritation develops.
Eye Contact:	IF IN EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention immediately.



Ingestion: IF SWALLOWED: Call a physician immediately. DO NOT induce vomiting unless directed to do so by a physician. Never give anything by mouth to an unconscious person.

Notes to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5. FIREFIGHTING MEASURES

Flammability Summary (OSHA): Product is not known to be flammable, combustible, pyrophoric or explosive.

Flammable Properties

Flash Point: Not applicable

Autoignition Temperature: Not applicable

Fire / Explosion Hazards: Material will not ignite or burn.

Extinguishing Media: Choose extinguishing media suitable for surrounding materials.

Fire Fighting Instructions: In case of fire, use normal fire-fighting equipment and the personal protective equipment recommended in Section 8 to include a NIOSH approved self-contained breathing apparatus.

Hazardous Combustion Products: Carbon monoxide, Carbon dioxide

Upper Flammable / Explosive Limit, % in air: Not applicable

Lower Flammable / Explosive Limit, % in air: Not applicable

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Protection for Emergency Situations: Additional protective clothing must be worn to prevent personal contact with this material. Those items include but are not limited to boots, impervious gloves, hard hat, splash-proof goggles, impervious clothing, i.e., chemically impermeable suit, self-contained breathing apparatus.

Spill Mitigation Procedures

Air Release: Hazardous concentrations in air may be found in local spill area and immediately downwind. Vapors may be suppressed by the use of water fog. Contain all liquid for treatment and/or disposal as a (potential) hazardous waste.

Water Release: This material is lighter than water. This material is miscible in water. Notify all downstream users of possible contamination. Divert water flow around spill if possible and safe to do so. Contain all liquid for treatment and/or disposal as a (potential) hazardous waste.

Land Release: Create a dike or trench to contain materials. Absorb spill with inert material (e.g., dry sand, clay, earth or commercial absorbent), then place in a chemical waste container. Do not place spill materials back in their original containers. Decontaminate all clothing and the spill area using a detergent and flush with large amounts of water. Contain all liquid for treatment and/or disposal as a (potential) hazardous waste.



Additional Spill Information : Stop source of spill as soon as possible and notify appropriate personnel. Utilize emergency response personal protection equipment prior to the start of any response. Evacuate all non-essential personnel. Dispose of spill residues per guidelines under Section 13, Disposal Consideration.

SECTION 7. HANDLING AND STORAGE

Handling: Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water. Avoid breathing mist or vapor.

Storage: Store in a cool, dry and well ventilated place. Isolate from incompatible materials.

Incompatible Materials for Storage: Bases, Reducing agents, oxidizers

Do Not Store At temperatures Above: 65.56 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation: No exposure limits exist for the constituents of this product. Additional ventilation beyond that of general exhaust is not normally required.

Protective Equipment for Routine Use of Product

Respiratory Protection : Respiratory protection not normally needed. If vapors, mists or aerosols are generated, wear a NIOSH approved respirator.

Respirator Type : A NIOSH approved full-face or half-face respirator in combination with chemical goggles. A NIOSH approved half-face air purifying respirator with organic vapor/acid gas cartridge. Air purifying respirators should not be used in oxygen deficient or IDLH atmospheres or if exposure concentrations exceed ten (10) times the published limit.

Skin Protection : Wear impervious gloves, boots and apron to avoid skin contact. A full impervious suit is recommended if exposure is possible to a large portion of the body.

Eye Protection: Use chemical goggles and a faceshield.

Protective Clothing Type: Neoprene, Natural rubber, Butyl rubber, Nitrile

General Protective Measures: An eye wash and safety shower should be provided in the immediate work area.

Components with workplace control parameters

no data available

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: liquid
Form liquid



Color:	colorless
Odor:	None
Molecular Weight:	(Active ingredient)90.08 g/mol
pH :	1.0 - 2.0 (@ 25 Deg. C)
Boiling Point:	No data
Melting point/freezing point	No data
Density:	9.3300lb/gal
Vapor Pressure:	No data (@ 25 Deg. C)
Vapor Density:	No data
Viscosity:	No data
Fat Solubility:	No data
Solubility in Water:	miscible
Partition coefficient n-octanol/water:	No data
Evaporation Rate:	LONZA-S10000000007700 1.00
Oxidizing:	No data
Volatiles, % by vol.:	45.000 - 55.000%
VOC Content	No data
HAP Content	No data

SECTION 10. STABILITY AND REACTIVITY

Stability and Reactivity Summary:	Stable under normal conditions. Not sensitive to mechanical shock. Not sensitive to static discharge. Product will not undergo hazardous polymerization.
Conditions to Avoid:	Sparks, open flame, other ignition sources, and elevated temperatures.
Chemical Incompatibility:	Bases, Reducing agents, oxidizers
Hazardous Decomposition Products:	Carbon monoxide, Carbon dioxide
Decomposition Temperature:	No data

SECTION 11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology

Oral LD50 value:

LACTIC ACID LD50 = 3,543 mg/kg Rat

Component Animal Toxicology

Dermal LD50 value:

LACTIC ACID LD50 > 2,000 mg/kg Rabbit

Component Animal Toxicology

Inhalation LC50 value:

LACTIC ACID No data



Product Animal Toxicity

Oral LD50 value: LD50 Believed to be > 3,543 mg/kg Rat

Dermal LD50 value: LD50 > 2,000 mg/kg Rabbit

Inhalation LC50 No data

value:

Skin Irritation: This material is expected to be corrosive.

Eye Irritation: This material is expected to be corrosive.

Skin Sensitization: This material is not known or reported to be a skin or respiratory sensitizer.

Acute Toxicity: This product is corrosive to all tissues contacted and upon inhalation, may cause irritation to mucous membranes and respiratory tract.

Subchronic / Chronic Toxicity: There are no known or reported effects from repeated exposure except those secondary to burns.

Reproductive and Developmental Toxicity: Not known or reported to cause reproductive or developmental toxicity.

Mutagenicity: This chemical has been tested and was shown to be non-mutagenic.

Carcinogenicity: This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.

SECTION 12. ECOLOGICAL INFORMATION

Overview: No aquatic toxicity data is available for this product.

SECTION 13. DISPOSAL CONSIDERATIONS

CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THE MATERIAL. THE USER OF THE MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.

Waste Disposal Summary : If this product becomes a waste, it meets the criteria of a hazardous waste as defined under 40 CFR 261 and would have the following EPA hazardous waste number: D002.

Disposal Methods : As a hazardous solid waste, it must be disposed of in accordance with local, state and federal regulations.



EPCRA - Emergency Planning and Community Right-to-Know Act

SARA 302

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

No components are subject to the Pennsylvania Right to know act

New Jersey Right To Know

No components are subject to the New Jersey Right to know act

California Prop 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

REACH	: Not in compliance with the inventory
	: Water
	: Lactic acid
TSCA	: The components of this product are listed on the TSCA Inventory of Existing Chemical Substances.
CH INV	: The formulation contains substances listed on the Swiss Inventory
	: Lactic acid
DSL	: All components of this product are on the Canadian DSL.
AUSTR	: On the inventory, or in compliance with the inventory
NZIOC	: On the inventory, or in compliance with the inventory
ENCS	: On the inventory, or in compliance with the inventory



ISHL : Not in compliance with the inventory
: Water
KOREA : On the inventory, or in compliance with the inventory
PHIL : On the inventory, or in compliance with the inventory
IECSC : On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

SECTIONS REVISED: 1, 14
Major References : Available upon request.

THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THE INFORMATION IN THIS MSDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. ARCH CHEMICALS BELIEVES THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF THE DATE OF PUBLICATION BUT, MAKES NO WARRANTY THAT IT IS. ADDITIONALLY, IF THIS MSDS IS MORE THAN THREE YEARS OLD, YOU SHOULD CONTACT ARCH CHEMICALS MSDS CONTROL AT THE PHONE NUMBER ON THE FRONT PAGE TO MAKE CERTAIN THAT THIS DOCUMENT IS CURRENT. .