



MATERIAL SAFETY DATA SHEET

PREPARED SEPTEMBER 2013 AND REVIEWED OCTOBER, 2022 BY MACJAMES GLOBAL RESOURCES LIMITED. FACTORY: NO. 10 MBAMARA STREET, UMUEBULU II, ETCHE LGA, RIVERS STATE, NIGERIA.

SECTION 1: CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: MACJAMES® MDSC-12 - DESCALER/SCALE CLEANER

PRODUCT USE: Dissolving/removal of heavy and light scales, limescale, mud, rust deposits, etc, from pipelines, water-operated equipment and others with like deposits.

ISO 9001:2015 Cert. No.: **N1683535**

APPROVED BY DPR: **DPR/HSE.04/003.850/2017/252**

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PACKAGING SIZES: 4 x 4 Litres : 20 Litres : 25 Litres : 200 Litres : IBC Tank (1000 Litres).
Others on request.

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS: De-ionized water, Inorganic Acids, Ammonium-based corrosion inhibitor, Proprietary blend.

SECTION 3: HAZARDOUS INGREDIENTS

All the ingredients are not known to be hazardous in the concentrations and proportions used in the formulation.

SECTION 4: FIRST AID MEASURES

EYES: If exposed, flush with water for 20 minutes and get medical attention.
SKIN: Wash with plenty of water. Seek medical attention if irritation persists.
INHALATION: Material has little vapor pressure and no noxious fumes in pure state. Get fresh air if exposed and seek medical attention if condition does not improve.
INGESTION: If ingested, drink water or milk, and seek immediate medical attention. Do not induce vomiting.



SECTION 5: FIRE FIGHTING METHODS

MACJAMES® MDSC-12 - DESCALER/SCALE CLEANER is a non-combustible liquid.

Fire and Explosion Hazards: There is little risk of an explosion from this product if commercial quantities are involved in a fire.

This product is likely to decompose only after heating to dryness, followed by further strong heating. Fire decomposition products from this product are likely to be harmful if inhaled. Take suitable protective measures.

Extinguishing Media: Not combustible. Use extinguishing media suited to burning materials. Water fog or fine spray will control, as will CO₂ and dry chemicals.

Fire Fighting: There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is liquid-tight chemical protective clothing and breathing apparatus.

Flash point: Does not burn.

Upper Flammability Limit: Does not burn.

Lower Flammability Limit: Does not burn.

Auto ignition temperature: Not applicable - does not burn.

Flammability Class: Does not burn. Fire fighters should wear self contained breathing apparatus with full face masks. Use dry chemical, foam, carbon dioxide or water spray for fires involving this product.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Protection: It is a good practice to wear impermeable gloves when handling chemical products. Eye protective safety glasses with side shields are recommended. Area isolation is necessary to personnel without protection.

Control Procedures: Rinse area with copious amounts of water to dilute. Sodium bicarbonate may also be used to absorb and/or neutralize liquid. Material is fully biodegradable and may be disposed of down normal sewer system, with water flush in accordance with the local, State, Provincial, and Federal regulations for your location.

SECTION 7: HANDLING AND STORAGE

Handling: Wear appropriate PPE for chemical handling. Avoid contact or contamination of product with incompatible materials such as strong Bases or Amines.

Storage: Preserve integrity of container. The product should be stored in the original containers in a cool and dry location.

SECTION 8: EXPOSURE CONTROLS/PERSONNEL PROTECTION

Exposure: Product has little vapor pressure and no noxious fumes in pure state.

Should not be considered hazardous when used as directed. Overexposure to chemicals should be avoided.

Respiratory Protection: Use under normal ventilated operating conditions, materials vapors and/or mists occur when in use so use of masks is recommended.

Eye Protection: Usage of safety glasses with side shields are recommended when handling product.

Hand Protection: Hand gloves are recommended when using product even though **MACJAMES® MDSC-12 - DESCALER/SCALE CLEANER** - can be held in the open hand without risk of burns.

Controls (Ventilation): Use normal exhaust, vent to atmosphere.

Other Protective: As recommended by plant safety department. Aprons or coveralls may be worn to prevent clothing from operational stains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

State:	Liquid
Appearance:	Colourless Liquid to cream colour.
Odour Characteristics:	Moderate acidic odour
pH:	< 2
Viscosity:	2.8P
Specific Gravity (H₂O = 1):	1.15
Boiling Point:	>110°C
Water Solubility:	Completely soluble in water.
Volatility:	Not volatile (contains no VOCs)
Evaporation Rate (H₂O = 1):	≥1
Freezing Point:	Below 0°C.
Odour Threshold:	No data
Coeff. Oil/water Distribution:	No data
Autoignition temp:	Not applicable - does not burn.

SECTION 10: STABILITY AND REACTIVITY

Stability: **MACJAMES® MDSC-12 - DESCALER/SCALE CLEANER** is considered stable.

Hazardous Decomposition: None in pure state.

Polymerization: Product will not undergo polymerization.

Incompatibility: Avoid contact with strong alkaline/Bases or Amines.

SECTION 11 : TOXICOLOGICAL AND ECOLOGICAL INFORMATION

MACJAMES® MDSC-12 - DESCALER/SCALE CLEANER is known to be non-carcinogenic, non-mutagenic or non-toxic from ingredients found in it.

This product may affect aquatic plants and fish if released undiluted. It should be properly diluted/neutralised with water before being released into the environment according to regulations.

SECTION 12: TRANSPORTATION AND DISPOSAL INFORMATION

MACJAMES® MDSC-12 - DESCALER/SCALE CLEANER is a non-combustible acidic Liquid. Should be transported in received containers. Empty used containers should be recycled at approved facility. Should be properly diluted with water before disposal or disposal should be conducted in accordance with local and Federal Environmental guidelines and regulations.

SECTION 13: REGULATORY INFORMATION

Chemical components found in this product are biodegradable and non-hazardous as in the proportions.

SECTION 14: OTHER INFORMATION

This MSDS contains only safety-related information.

Use **MACJAMES® MDSC-12 - DESCALER/SCALE CLEANER** only as directed. If procedures are not published for your particular application, contact us for assistance. **MACJAMES® MDSC-12 - DESCALER/SCALE CLEANER** manufactured to be used by itself or diluted with water and water only. Do not heat. Use at an ambient temperature. Vent circulating solution to atmosphere. Some reactions may occur with some alloys of aluminum, magnesium, and/or zinc.

MACJAMES® MDSC-12 - DESCALER/SCALE CLEANER contains corrosion inhibiting inert salt and removes scales by reaction.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS) RATING.

HEALTH	1	0 - Minimal
FLAMMABILITY	0	1 - Slight
PHYSICAL HAZARD	0	2 - Moderate
PERSONAL PROTECTION	B	3 - High
		4 - Very High

DISCLAIMER: This MSDS is intended to provide a brief summary of our knowledge and guidance regarding the use of this material. The information contained here has been compiled from sources considered by Macjames Global Resources Limited to be dependable and is accurate to the best of the Company's knowledge. It is not meant to be an all-inclusive document on worldwide hazard communication regulations.

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