
MATERIAL SAFETY DATA SHEET

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Revised 2/02/04
Replaces 8/12/03
Printed 2/03/04

DIVOS 2 VM13**MSDS ID: 57484**

I. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: DIVOS 2 VM13

Product Descriptor: ACIDIC DESCALER FOR UF, NF AND RO MEMBRANES

MANUFACTURER: JOHNSON DIVERSEY, INC.

EMERGENCY PHONE NUMBER: (800) 851-7145

3630 E. KEMPER ROAD

CINCINNATI, OH. 45241

II. HAZARDOUS COMPONENTS

Component Name	CAS Number	%	Exposure Limits	Units
NITRIC ACID	7697-37-2	15 - 30%	TLV 5.2 STEL 10	MG/M3
PHOSPHORIC ACID	7664-38-2	15 - 30%	TWA 1 STEL 3	MG/M3

III. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

CORROSIVE - Contains strong acids. Causes severe burn to skin and eyes. May be fatal if swallowed. Do not contact eyes, skin or clothing. Wear goggles, face shield, rubber gloves, and protective clothing and boots when handling product. Avoid breathing dust or spray mist. Contain spill or runoff, which may cause environmental damage. Contact with aluminum or soft metals may release flammable hydrogen fumes.

POSSIBLE ROUTES OF ENTRY: Inhalation and ingestion.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

ACUTE: **EYES:** Severe burns, tissue damage, or irritation with pain, swelling, blurred or impaired vision, blindness. **SKIN:** Severe burns, tissue destruction, blisters or rash with swelling and pain. **INGESTION:** May be fatal. Severe burns to mouth and throat may result with pain, gastric perforation and difficulty in swallowing or breathing. **INHALATION:** Spray or mists cause burns or severe irritation to nose, throat and respiratory tract with pain, choking, and experience difficulty in breathing.

CHRONIC: Same as acute effects.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Dermatitis, sensitive skin, pulmonary function and asthma.

TARGET ORGAN(S) OF CHEMICAL HAZARD(S): Eyes, skin, respiratory tract, and gastrointestinal tract.

IV. FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart to completely flush all chemicals from entire eye surface. Get immediate medical attention.

SKIN: Promptly flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and footwear. Launder contaminated clothing and discard or thoroughly clean shoes before reuse. Get medical attention for painful, red or injured skin areas.

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IV. FIRST AID MEASURES (Cont.)

INGESTION: If swallowed, rinse mouth with water. Dilute by drinking several glasses of water. DO NOT induce vomiting. If patient vomits, rerinse mouth. Get immediate medical attention. NOTE: Never give fluids by mouth to an unconscious person.

INHALATION: If inhaled, move to fresh air. If patient is not breathing, give artificial respiration. If breathing is difficult, give oxygen under the direction of trained personnel or a physician. Get immediate medical attention.

V. FIRE FIGHTING MEASURES

FLASH POINT (degrees F): None FLAME EXTENSION: N/A

FLAMMABLE LIMITS IN AIR BY VOLUME: LEL: N/E UEL: N/E

UNUSUAL FIRE OR EXPLOSIVE HAZARDS: Toxic fumes or vapor may form during fire. Liquid produces hydrogen on contact with soft, active metals.

EXTINGUISHING MEDIA: Water spray, CO2, foam or dry powder.

FIRE FIGHTING INSTRUCTIONS: Wear full protective gear and positive pressure breathing apparatus SCBA) in fire area.

SPECIAL INSTRUCTIONS: Spilled product may cause slippery surface and fall hazard.

VI. ACCIDENTAL RELEASE MEASURES

IF MATERIAL IS RELEASED OR SPILLED:

Contain spill. Wear protective clothing. Soak up or absorb liquid on suitable absorbent material. Collect and place in chemical waste container. Dispose of in accordance with local, State and Federal regulations. Flush spill area with water.

The Reportable Quantity (RQ) of Nitric Acid CAS #7697-37-2 is 354 gallons or 1,000 lbs.

VII. HANDLING AND STORAGE

HANDLING AND STORAGE PRECAUTIONS: CONTAINS NITRIC ACID. Dilute product only with water or by label directions. Keep container closed when not in use. Wear protective gear when using or handling product. Do not mix with oils, detergents or chlorinated cleaners. Toxic or irritating gasses may be released. Do not pressurize container to empty. Contamination of combustibles such as wood, paper, or oily rags may cause fire.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

EYE/FACE PROTECTION: Chemical goggles if contact or splash hazard exists. Face shields.

PROTECTIVE GLOVES: Acid resistant.

RESPIRATORY PROTECTION: Product does not have any established exposure limits. NIOSH/MSHA approved respirator recommended in enclosed or confined spaces where high air concentration or long exposure may occur.

OTHER PROTECTIVE CLOTHING/EQUIPMENT: Rubber boots and chemical resistant apron if contact or splash hazard exists. Eyewash and safety shower in area if

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VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION (Cont.)

contact or splash hazard exists.

ENGINEERING CONTROLS:

VENTILATION: Good general ventilation should be sufficient to control airborne levels.

IX. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Clear, colorless liquid, pungent odor.

BOILING POINT (DEG F):	FREEZING POINT: <40 F
SPECIFIC GRAVITY/BULK DENSITY: 1.30	
pH: <1	pH 1% SOLUTION: 1.8%
VOLATILE BY VOLUME: 54.5	
SOLUBILITY IN WATER: Soluble	
VAPOR PRESSURE(mmHg): 17.5 at 20 C	VAPOR DENSITY: 17.3

X. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Product stable.

INCOMPATIBILITY WITH OTHER MATERIALS: Alkalis; Soft metals; Chlorine and chlorinated compounds

HAZARDOUS DECOMPOSITION PRODUCTS: Incomplete combustion forms; oxides of nitrogen; oxides of phosphorus

HAZARDOUS POLYMERIZATION: None known.

XI. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: Toxicological testing has not been performed on the product. Listed below is the available toxicology test data for components of the product.

TOXICITY TEST DATA:

Phosphoric Acid:

Acute Oral LD50 (rat) - 1530 mg/kg (RTECS)

Acute Skin LD50 (rabbit) - 2740 mg/kg (RTECS)

Nitric Acid:

Acute Oral LDLO (man) - 430 mg/kg (MSI)

XII. ECOLOGICAL INFORMATION

Toxicological testing has not been performed on the product. Listed below is the available toxicology test data for components of the product.

ECOTOXICITY TEST DATA:

The aquatic toxicity is highly mitigated by the presence of dissolved organic carbon in the water. Results obtained using the US EPA "Dirty Water" test show that irreversible adsorption onto suspended matter and dissolved organics (such as humic and other organic acids) present in natural waters, reduces the toxicity to aquatic organisms by a factor of over 10.

Nitric Acid:

LC50 (48 hr.) (Carcinus maena) 180 mg/l

LC50 (48 hr.) (Dinocardium robustum) 1000 mg/l

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XII. ECOLOGICAL INFORMATION (Cont.)

LC50 (48 hr.) (Asterias forbosi) 100-300 mg/l
ENVIRONMENTAL FATE: No data available.

XIII. DISPOSAL CONSIDERATIONS

RCRA REGULATED: Product is considered to be D002 - Corrosive, if declared hazardous waste.
Spent or excess product is hazardous waste. Do not discharge to sewer or environment. Arrange disposal through a licensed disposal company or treat by special Waste Disposal Sheet. Recycle or dispose of containers by product labeling or governmental regulations.

XIV. TRANSPORT INFORMATION

Please refer to the Bill of Lading/receiving documents for up to date shipping information.

XV. REGULATORY INFORMATION

U.S. Federal Regulations:

TSCA: All ingredients in this product are on TSCA inventory.

HAPS: None

VOC CONTENT (EPA Method 24A): % VOC: 0 Lb/Gal VOC: 0

CERCLA/EPCRA:

Section 313 Toxic Chemicals:

Product contains Nitric Acid (CAS #7697-37-2) at 29.66%, which is SARA Reportable.

SARA Section 311/312:

ACUTE: YES CHRONIC: NO FIRE: NO REACTIVITY: NO
SUDDEN RELEASE OF PRESSURE: NO

LISTED CARCINOGEN: None

NTP: No IARC: No OSHA: No

HMIS RATINGS: HEALTH: 3 FIRE: 0 REACTIVITY: 1

PERSONAL PROTECTIVE EQUIPMENT: D

NFPA RATING: HEALTH: 3 FIRE: 0 REACTIVITY: 1 SPECIAL: Acid, Oxidizer

STATE RIGHT-TO-KNOW INFORMATION:

WATER - CAS #7732-18-5

NITRIC ACID - CAS #7697-37-2

PHOSPHORIC ACID - CAS #7664-38-2

CALIFORNIA PROPOSITION 65:

None of the ingredients are on the California proposition 65 list.

XVI. OTHER INFORMATION

DISCLAIMER: The information contained in this material safety data sheet is based on the knowledge of this specific product and current national legislation. It applies to the product as sold, use dilutions may be less hazardous. It may not be valid for this material if used in combination with any other materials or in a process. It is the user's responsibility to evaluate the handling, and use.