

MATERIAL SAFETY DATA SHEET

200 Prospect Street
Waltham, Massachusetts 02454-9141
EMERGENCY PHONE: (781) 894-0800
IMPORTANT SAFETY INFORMATION

NOVA 4 CRT SODIUM/POTASSIUM/CHLORIDE/TOTAL CARBON DIOXIDE/LITHIUM ANALYZER MSDS INFORMATION

(Catalog No. 13244 and 14049)

This package contains all the required Material Safety Data Sheets (MSDSs) for the fluid pack and the various reagents used on the NOVA 4 CRT Analyzer. Material Safety Data Sheets are enclosed for the items listed below in Table 1:

Table 1
REQUIRED MATERIAL SAFETY DATA SHEETS

<u>Catalog No.</u>	<u>Description</u>
00018	Na/pH Conditioning Solution
06857	pH/pCO ₂ /TCO ₂ Conditioning Solution
11272	NOVA Cleaning Solution
15647	NOVA 4 CRT Reagent Pack, Waste Bottle

Table 2 identifies those reagents and solutions intended for use on the NOVA 4 CRT Analyzer which do **not** contain hazardous substances and therefore do not require Material Safety Data Sheets.

Table 2
NO MATERIAL SAFETY DATA SHEETS REQUIRED

<u>Catalog No.</u>	<u>Description</u>
00101	TCO ₂ Internal Filling Solution
13511	NOVA Standard Set A - 1
13512	NOVA Standard Set A - 2
13513	NOVA Standard Set A - 3
13514	NOVA Standard Set A - 4
14071	NOVA Standard Set A - 6
12882	Dilutor Reagent Pack

If there are any questions concerning the information provided, please contact the Customer Service Department at NOVA Biomedical at (781) 894-0800 between the hours of 9:00 a.m. and 5:00 p.m. Eastern Standard Time.

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February 2001

SECTION I
IDENTIFICATION

IDENTITY: Na/pH CONDITIONING SOLUTION

CATALOG NUMBER: 00018

SECTION II
HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

HAZARDOUS COMPONENTS: 0.1 M AMMONIUM BIFLUORIDE IN WATER.

CAS #: 1341-49-7

SECTION III
PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT: 100°C. SOLUBILITY IN WATER: APPRECIABLE (MORE THAN 10%). APPEARANCE AND ODOR: CLEAR, ODORLESS LIQUID

SECTION IV
FIRE AND EXPLOSION HAZARD DATA

FLAMMABLE LIMITS: NONFLAMMABLE. EXTINGUISHING MEDIA: USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SECTION V
REACTIVITY DATA

STABLE: YES. CONDITIONS TO AVOID: MINERAL ACIDS. INCOMPATIBILITY: STRONG ACIDS. HAZARDOUS DECOMPOSITION OR BYPRODUCTS: AMMONIA, HYDROGEN FLUORIDE. HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION VI
HEALTH HAZARD DATA

ROUTES OF ENTRY: INHALATION, SKIN, INGESTION. HEALTH HAZARDS (ACUTE AND CHRONIC): CONTACT WITH SKIN OR EYES MAY CAUSE IRRITATION OR BURNS. TOXIC IF SWALLOWED. SIGNS AND SYMPTOMS OF EXPOSURE: NAUSEA, ABDOMINAL PAINS. EMERGENCY AND FIRST AID PROCEDURES: SKIN AND EYE CONTACT: FLUSH WITH COPIOUS AMOUNTS OF WATER. CALL A PHYSICIAN.

SECTION VII
PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: COVER SPILL WITH SODIUM BICARBONATE AND SCOOP INTO PLASTIC CONTAINER. WASTE DISPOSAL METHOD: DISPOSE BY STATE-APPROVED WASTE DISPOSAL COMPANY. PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: KEEP CONTAINER TIGHTLY CLOSED. PROTECT FROM PHYSICAL DAMAGE.

SECTION VIII
CONTROL MEASURES

VENTILATION: LOCAL EXHAUST. PROTECTIVE GLOVES: RUBBER. EYE PROTECTION: GOGGLES. OTHER PROTECTIVE CLOTHING OR EQUIPMENT: LAB COAT. WORK/HYGIENIC PRACTICES: WASH THOROUGHLY AFTER HANDLING.

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. NOVA BIOMEDICAL shall not be held liable for any damage or personal injury resulting from handling or from contact with the above product.

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SECTION I

IDENTIFICATION

IDENTITY: $\text{PCO}_2/\text{TCO}_2$ CONDITIONING SOLUTION

CATALOG NUMBER: 06857

SECTION II

HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

0.1 N HYDROCHLORIC ACID (HCL)

CAS #: 7647-01-0

SECTION III

PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT: 103°C. SPECIFIC GRAVITY ($\text{H}_2\text{O} = 1$): 1.05. SOLUBILITY IN WATER: INFINITELY MISCIBLE WITH WATER APPEARANCE AND ODOR: CLEAR, COLORLESS SOLUTION

SECTION IV

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED): NFPA 704M RATING 3-0-0

EXTINGUISHING MEDIA: USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SECTION V

REACTIVITY DATA

STABLE: YES. INCOMPATIBILITY (MATERIALS TO AVOID): STRONG BASES AND ALKALI METALS

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION VI

HEALTH HAZARD DATA

ROUTES OF ENTRY: INHALATION: CAUSES IRRITATION OF RESPIRATORY TRACT
HEALTH HAZARDS (ACUTE AND CHRONIC): EYES - CAUSES IRRITATION AND BURNING. SKIN -
CAUSES IRRITATION AND BURNING. SIGNS AND SYMPTOMS OF EXPOSURE: IRRITATION OF
RESPIRATORY TRACT. IRRITATION AND BURNING OF SKIN.

EMERGENCY AND FIRST AID PROCEDURES: IF SWALLOWED, DO NOT INDUCE VOMITING. GIVE
WATER, MILK, OR MILK OF MAGNESIA. IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR
SKIN WITH WATER. CONTACT A PHYSICIAN.

SECTION VII

PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: WEAR ACID GAS RESPIRATOR
AND SUITABLE CLOTHING. ABSORB SPILLED MATERIAL ON VERMICULITE. WASTE DISPOSAL
METHOD: DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL
ENVIRONMENTAL REGULATIONS.

SECTION VIII

CONTROL MEASURES

VENTILATION: LOCAL EXHAUST; MECHANICAL (GENERAL).

PROTECTIVE GLOVES: RUBBER GLOVES EYE PROTECTION: GOGGLES.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: AS NECESSARY TO PREVENT SKIN CONTACT
WORK/HYGIENIC PRACTICES: GOOD LABORATORY PRACTICE

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SECTION I
IDENTIFICATION

FEBRUARY 2001

IDENTITY: NOVA CLEANING SOLUTION

CATALOG NUMBER: 11272

SECTION II
HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

HAZARDOUS COMPONENTS: HYPOCHLOROUS ACID, SODIUM SALT; SODIUM HYPOCHLORITE 0.02 MOL/L SOLUTION IN WATER
RTECS #: NH3486300

SECTION III
PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT: 100°C. VAPOR PRESSURE (MM HG.): 17.5 MM AT 20°C. SPECIFIC GRAVITY (H₂O = 1): 1.0. SOLUBILITY IN WATER:
SOLUBLE. APPEARANCE AND ODOR: CLEAR COLORLESS TO PALE YELLOW LIQUID.

SECTION IV
FIRE AND EXPLOSION HAZARD DATA

EXTINGUISHING MEDIA: DRY CHEMICAL POWDER. SPECIAL FIRE FIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING
APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES AND EXPOSURE TO TOXIC FUMES.
UNUSUAL FIRE AND EXPLOSION HAZARDS: EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION V
REACTIVITY DATA

STABLE: YES. INCOMPATIBILITY: STRONG ACIDS, AMINES, AMMONIA. HAZARDOUS DECOMPOSITION OR BYPRODUCTS:
CHLORINE GAS. HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION VI
HEALTH HAZARD DATA

ROUTES OF ENTRY: INHALATION; SKIN; INGESTION. HEALTH HAZARDS (ACUTE AND CHRONIC): HARMFUL IF SWALLOWED,
INHALED, OR ABSORBED THROUGH SKIN. DESTRUCTIVE TO TISSUE OF MUCOUS MEMBRANES, EYES, SKIN. CHRONIC EFFECTS:
LABORATORY EXPERIMENTS HAVE SHOWN MUTAGENIC EFFECTS. CHEMICAL, PHYSICAL TOXICOLOGICAL PROPERTIES NOT
THOROUGHLY INVESTIGATED. SIGNS AND SYMPTOMS OF EXPOSURE: SOMNOLENCE
EMERGENCY AND FIRST AID PROCEDURES: IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS
AMOUNTS OF WATER FOR 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.

SECTION VII
PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: WEAR RUBBER BOOTS, HEAVY RUBBER GLOVES, AND
NIOSH-APPROVED GAS RESPIRATOR. ABSORB ON SAND OR VERMICULITE AND PLACE IN CLOSED CONTAINERS FOR DISPOSAL.
WASTE DISPOSAL METHOD: DILUTE WITH LARGE AMOUNT OF WATER AND FLUSH THE SOLUTION DOWN THE DRAIN. OBSERVE
ALL FEDERAL, STATE AND LOCAL LAWS. PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: WEAR APPROPRIATE
PROTECTIVE GEAR TO PREVENT CONTACT WITH SKIN OR EYES OR INHALATION.

SECTION VIII
CONTROL MEASURES

VENTILATION: LOCAL EXHAUST. PROTECTIVE GLOVES: RUBBER. EYE PROTECTION: SAFETY GLASSES. OTHER PROTECTIVE
CLOTHING OR EQUIPMENT: LAB COAT. WORK/HYGIENIC PRACTICES: GOOD LABORATORY PRACTICE

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FEBRUARY 2001

SECTION I

----- IDENTIFICATION -----

IDENTITY: NOVA 4 CRT REAGENT PACK, WASTE BOTTLE

CATALOG NUMBER: 15647

SECTION II

HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

HAZARDOUS COMPONENTS: COMPOUND X (PROPRIETARY) FORMED INTO TABLETS. ORL-RAT LD50:180 MG/KG. IHL-RAT LC:>5GM/M³/6H. SKN-RAT LD50:1600 MG/KG. SCU-RAT LD50:170 MG/KG.

SECTION III

PHYSICAL/CHEMICAL CHARACTERISTICS

MELTING POINT: 130°C - 133°C. SOLUBILITY IN WATER: AT 22°C APPROXIMATELY 25% BY WEIGHT. APPEARANCE AND ODOR: WHITE CRYSTALS.

SECTION IV

FIRE AND EXPLOSION HAZARD DATA

EXTINGUISHING MEDIA: WATER, FOAM, DRY CHEMICAL POWDER, CARBON DIOXIDE. SPECIAL FIRE FIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT EXPOSURE TO TOXIC FUMES.

SECTION V

REACTIVITY DATA

CONDITIONS TO AVOID: STRONG OXIDIZING AND REDUCING AGENTS, STRONG BASES, ACID CHLORIDES. HAZARDOUS DECOMPOSITION OR BYPRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE, NITROGEN OXIDES, HYDROGEN BROMIDE.

SECTION VI

HEALTH HAZARD DATA

ROUTES OF ENTRY: SKIN, INGESTION, INHALATION OF DUST PARTICLES. HEALTH HAZARDS (ACUTE AND CHRONIC): HARMFUL IF SWALLOWED. IRRITATING TO EYES AND SKIN. SIGNS AND SYMPTOMS OF EXPOSURE: IRRITATION OF EYES AND SKIN; IRRITATION OF MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACK. EMERGENCY AND FIRST AID PROCEDURES: EYES-FLUSH WITH COPIOUS AMOUNT OF WATER FOR 15 MINUTES OR MORE. SKIN-WASH WITH SOAP AND COPIOUS AMOUNT OF WATER. INGESTION-WASH OUT MOUTH WITH WATER. CONTACT PHYSICIAN.

SECTION VII

PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: WEAR ORGANIC, NIOSH-APPROVED RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS, AND HEAVY RUBBER GLOVES. SWEEP UP IN A BAG. AVOID RAISING DUST. PLACE BAG IN SEALED CONTAINER AND HOLD FOR WASTE DISPOSAL. VENTILATE AREA AND WASH SPILL SITE WITH WATER AFTER MATERIAL PICKUP IS COMPLETE.

SECTION VIII

CONTROL MEASURES

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: AVOID CONTACT WITH EYES, SKIN, AND CLOTHING. DO NOT BREATHE DUST. AVOID PROLONGED OR REPEATED EXPOSURE. WASH THOROUGHLY AFTER HANDLING. KEEP CONTAINER TIGHTLY CLOSED AND STORE IT IN COOL PLACE.

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