

Safety Data Sheet

Material Name: NANOCHEM® OPX

SDS ID: MATNE513

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

NANOCHEM® OPX

Synonyms

NANOCHEM(R) OPX OXIDE GAS PURIFICATION SYSTEM

Product Description

For Use with Gas: Oxygen (O2), Carbon Dioxide (CO2), Nitrous Oxide (N2O), Nitrogen Trifluoride (NF3). As a service to our customers, Matheson Gas Products has identified this Safety Data Sheet with the intended gas for which the accompanying purifier will be used. The data herein is reflective of the purification media, as shipped under an argon pressure of 5-15 psig. Since the purifier is factory pre-conditioned with the intended gas prior to shipment to the customer location, the SDS for the intended gas must also be consulted in conjunction with this SDS to determine the appropriate hazards.

Product Use

Industrial and Specialty Gas Applications.

Restrictions on Use

None known.

Details of the supplier of the safety data sheet

MATHESON TRI-GAS, INC.

909 Lake Carolyn Parkway

Suite 1300

Irving, TX 75039

General Information: 1-800-416-2505

Emergency #: 1-800-424-9300 (CHEMTREC)

Outside the US: 703-527-3887 (Call collect)

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

None needed according to classification criteria.

GHS Label Elements

Symbol(s)

None needed according to classification criteria.

Signal Word

None needed according to classification criteria

Hazard Statement(s)

None needed according to classification criteria.

Precautionary Statement(s)

Prevention

None needed according to classification criteria.

Response

None needed according to classification criteria.

Storage

None needed according to classification criteria.

Disposal

Dispose in accordance with all applicable regulations.

Other Hazards

There are no expected signs or symptoms of overexposure in the workplace. The purification system is sold as a sealed unit and no worker exposure to the media is expected.

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Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
Proprietary	METAL OXIDES, TRADE SECRET	100

Component Related Regulatory Information

The chemical identity and/or percentage of composition is being withheld as a trade secret.

Section 4 - FIRST AID MEASURES

Inhalation

It is unlikely that emergency treatment will be required. However, in case of contact with media remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Call a physician if irritation persists.

Skin

It is unlikely that emergency treatment will be required. However, in case of contact with media promptly wash with soap and running water. Remove contaminated clothing. Wash clothing before reuse.

Eyes

It is unlikely that emergency treatment will be required. However, in case of contact with compound, immediately flush with plenty of low pressure water for at least 20 minutes. Remove any contact lenses to ensure thorough flushing. Call a physician.

Ingestion

If swallowed, get medical attention.

Most Important Symptoms/Effects

Acute

no information on significant adverse effects.

Delayed

no information on significant adverse effects.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Use extinguishing agents appropriate for surrounding fire.

Unsuitable Extinguishing Media

None known.

Special Hazards Arising from the Chemical

Negligible fire hazard as long as the container is not punctured or a wrong gas such as pure oxygen is not accidentally piped to the canister.

Hazardous Combustion Products

oxides of metal

Fire Fighting Measures

Do not get water inside container. Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

Special Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

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Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8.

Methods and Materials for Containment and Cleaning Up

Do not get water inside container. Collect spilled material in appropriate container for disposal.

Environmental Precautions

Avoid release to the environment.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

No special handling precautions during normal use. Wash hands thoroughly after handling.

Conditions for Safe Storage, Including any Incompatibilities

None needed according to classification criteria.

Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances. Do not store or operate at temperatures above 150 °C (302 °F).

Incompatible Materials

Chemicals with high heat of absorption, such as olefins, HCl, etc.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

There are no biological limit values for any of this product's components.

Engineering Controls

Not required during normal system use. In the event of system rupture, media removal from the system, or exposure to the media: Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Not required during normal system use. In the event of system rupture, media removal from the system, or exposure to the media: Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin Protection

Not required during normal system use. In the event of system rupture, media removal from the system, or exposure to the media: Wear appropriate chemical resistant clothing.

Respiratory Protection

Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Not required during normal system use. In the event of system rupture, media removal from the system, or exposure to the media: Any dust, mist, and fume respirator. Any air-purifying respirator with a high-efficiency particulate filter. Any powered, air-purifying respirator with a dust, mist, and fume filter. Any powered, air-purifying respirator with a tight-fitting facepiece and a high-efficiency particulate filter.

Glove Recommendations

Not required during normal system use. In the event of system rupture, media removal from the system, or exposure to the media: Wear appropriate chemical resistant gloves.

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES			
Appearance	White pellets (compound) encased in a stainless steel cylinder (canister) pressurized with an inert gas	Physical State	solid
Odor	odorless	Color	white
Odor Threshold	Not available	pH	Not available
pH Solution	8 - 11 (Aqueous dispersion)	Melting Point	Not available
Boiling Point	Not available	Boiling Point Range	Not available
Freezing point	Not available	Evaporation Rate	Not available
Flammability (solid, gas)	Not flammable	Autoignition Temperature	Not available
Flash Point	(Not flammable)	Lower Explosive Limit	Not available
Decomposition temperature	Not available	Upper Explosive Limit	Not available
Vapor Pressure	Not available	Vapor Density (air=1)	Not available
Specific Gravity (water=1)	0.73	Water Solubility	Not available
Partition coefficient: n-octanol/water	Not available	Viscosity	Not available
Kinematic viscosity	Not available	Solubility (Other)	Not available
Density	Not available	Physical Form	white solid
Molecular Weight	Not available		

Section 10 - STABILITY AND REACTIVITY

Chemical Stability

Reacts with moisture and carbon dioxide in air to release flammable hydrogen gas and a temperature rise sufficient to char and possibly ignite combustible materials.

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Possibility of Hazardous Reactions

Will not polymerize.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

Incompatible Materials

Chemicals with high heat of absorption, such as olefins, HCl, etc.

Hazardous decomposition products

oxides of metal

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation

This product is considered to be nonhazardous, however the following effects may occur as a result of damage to the product:: irritation

Skin Contact

This product is considered to be nonhazardous, however the following effects may occur as a result of damage to the product:: irritation

Eye Contact

This product is considered to be nonhazardous, however the following effects may occur as a result of damage to the product:: irritation

Ingestion

This product is considered to be nonhazardous, however the following effects may occur as a result of damage to the product:: irritation

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

Product Toxicity Data

Acute Toxicity Estimate

No data available.

Immediate Effects

no information on significant adverse effects.

Delayed Effects

no information on significant adverse effects.

Irritation/Corrosivity Data

No data available.

Respiratory Sensitization

No data available.

Dermal Sensitization

No data available.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA.

Germ Cell Mutagenicity

No data available.

Tumorigenic Data

No data available

Reproductive Toxicity

No data available.

Specific Target Organ Toxicity - Single Exposure

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No target organs identified.

Specific Target Organ Toxicity - Repeated Exposure

No target organs identified.

Aspiration hazard

No data available.

Medical Conditions Aggravated by Exposure

respiratory disorders

Additional Data

There are no expected signs or symptoms of overexposure in the workplace. The purification system is sold as a sealed unit and no worker exposure to the media is expected. In case of an accidental spill, the signs and symptoms below may be seen.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

No LOLI ecotoxicity data are available for this product's components.

Persistence and Degradability

No data available.

Bioaccumulative Potential

No data available.

Mobility

No data available.

Other Toxicity

No additional information is available.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose in accordance with all applicable regulations. If the purification system is ever exposed to toxic gases or gases containing toxic elements, the media may contain these toxic materials, or reaction products thereof, and exhibit the characteristic of toxicity as defined in the hazardous waste regulations 40 CFR 261 Subpart C or D.

System Recharge: The customer may consult Matheson PBU for the disposal and recharge of the system. Systems used to purify reactive or flammable gases must be thoroughly purged with an inert gas prior to disposal.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

Section 14 - TRANSPORT INFORMATION

US DOT Information:

No Classification assigned.

International Bulk Chemical Code

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations

None of this product's components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories

No hazard categories applicable.

U.S. State Regulations

None of this product's components are listed on the state lists from CA, MA, MN, NJ or PA.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

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Not listed under California Proposition 65.

Section 16 - OTHER INFORMATION

NFPA Ratings

Health: 1 Fire: 0 Instability: 1

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

Updated: 05/01/2015

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; KR REACH CCA - Korea Registration and Evaluation of Chemical Substances Chemical Control Act; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; Ne- Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL - Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL - Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH - Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA - Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TH-TECI - Thailand - FDA Existing Chemicals Inventory (TECI); TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW - Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

Other Information

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