MATERIAL SAFETY DATA SHEET (MSDS)
Acid Gas Adsorbent

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: CONFIDENTIAL – SUPPLIED BY SENTRY AIR SYSTEMS, INC.
Use/Size: Impregnated Adsorbents
Supplier: Sentry Air Systems, Inc.
Address: 6999 W. Little York, Ste. P1, Houston, TX 77040
Phone Number: 713.690.2153
Fax Number: 713.690.7872
Revision Date: April 1, 2009
MSDS Date: June 25, 2002

This MSDS has been compiled in accordance with -EC Directive 91/155/EC -OSHA's Hazcom Standard (29 CFR 1910.1200)

2. COMPOSITION/INFORMATION ON THE COMPONENTS

Component Name	CAS#/Codes	Concentration	R Phrases	Classification
Potassium Hydroxide	1310-58-3 215-181-3	< 5%	R34	C
Potassium Iodide	7681-11-0 231-659-4	< 3%	R-None	None
Activated Carbon	7440-44-0 231-153-3	82%	R-None	None

R34: Causes burns.

3. HAZARD IDENTIFICATION

EU Main Hazards
Causes burns.

Routes of Entry
- Eye contact - Skin contact - Inhalation.

Carcinogenic Status
Not considered carcinogenic by NTP, IARC, and OSHA.

Target Organs
- Eye - Skin - Respiratory Tract.

Health Effects - Eyes
Contact may cause conjunctival irritation and may cause chemical burns.

Health Effects - Skin
Material may cause irritation and may cause chemical burns.

Health Effects - Ingestion
May cause irritation to gastrointestinal tract and may cause chemical burns.

Health Effects - Inhalation
Exposure to dusts at high concentrations may cause irritation of nose throat and respiratory tract and may cause lung damage.

4. FIRST AID MEASURES

Eyes

Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

Skin

Wash skin thoroughly with soap and water. Continue washing for at least 15 minutes. Seek medical attention if symptoms occur or redness persists.

Ingestion

Have victim drink 1-3 glasses of water to dilute stomach contents. Never administer anything by mouth if a victim is losing consciousness, is unconscious or is convulsing. Obtain medical attention immediately.

Inhalation

If there is difficulty in breathing, give oxygen. Seek medical attention if symptoms persist.

Advice to Physicians

Treat Symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media

Use water spray, foam, dry chemical or carbon dioxide.

Unusual Fire and Explosion Hazards

This product may give rise to hazardous fumes in a fire. Heavy carbon dust in air presents a dust explosion hazard. Potassium hydroxide reacts with metals and their alloys to generate flammable and explosive hydrogen gas.

Protective Equipment for Fire-Fighting

Wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

This product may be collected by carefully scooping into a pan, paper towel or other absorbent material. Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Transfer into suitable containers for recovery or disposal. Wear appropriate protective clothing.

7. HANDLING AND STORAGE

Keep container tightly closed when not in use. Avoid buildup of static charge in handling equipment. Do not get in eyes, on skin or on clothing. Avoid breathing dust. Storage area should be: - cool - dry - well ventilated - away from incompatible materials (see section 10 for materials to avoid).

Wet activated carbon removes oxygen from air causing a severe hazard (oxygen deficient atmosphere) to workers inside carbon vessels and enclosed or confined spaces. Establish Confined Space Entry Protocols before entering.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Standards

Exposure limits are listed below, if they exist.

Activated Carbon

ACGIH TLV: Graphite, all forms except graphite fibers: 2 mg/m3 (TWA). OSHA Permissible. Exposure Limits (PELs): activated carbon (graphite, synthetic): total particulate = 15 mg/m3 (TWA), respirable fraction = 5 mg/m3 (TWA). UK TWA: 4 mg/m3.

Potassium Hydroxide

ACGIH TLV: 2 mg/m3 (Ceiling) OSHA Permissible Exposure Limits (PELs): not established UK:
STEL is 2 mg/m3.

Potassium Iodide

Not Established

Engineering Control Measures

Good general room ventilation is expected to be adequate to control airborne levels. If conditions are dusty, use local exhaust ventilation.

Respiratory Protection

NIOSH Approved dust respirator if conditions are dusty.

Hand Protection

Rubber gloves.

Eye Protection

Chemical goggles or safety glasses with side shields.

Body Protection

Normal work wear.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Amorphous Solid
Color	Black
Odor	Odorless
pH	No data
Specific Gravity	0.4-0.6
Boiling Range / Point (°C)	4000
Flash Point (PMCC) (°C)	330
Explosion Limits (%)	Not flammable
Vapor Pressure	Not Applicable
Density	0.47-0.52g/ml
Solubility in Water	Insoluble
Vapor Density (Air = 1)	Not Applicable
Melting Point (deg C)	Not Applicable

10. STABILITY AND REACTIVITY

Stability

Stable under normal conditions.

Conditions to Avoid

- Heat - High temperatures.

Materials to Avoid

- Water reactive chemicals - strong oxidizers - strong acids salts of alkaloids - chloral hydrate - mercurous chloride - potassium chlorate - bromine trifluoride - chlorine trifluoride - fluorine - metals.

Hazardous Polymerization

Will not occur.

Hazardous Decomposition Products

- Acrid smoke and irritating fumes - oxides of carbon - oxides of nitrogen - oxides of potassium - oxides of iodine - potassium hydroxide reacts with metals and their alloys to generate flammable and explosive hydrogen gas.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

(Potassium Hydroxide) Oral LD50 (rat) 273-1230 mg/kg

Chronic Toxicity/Carcinogenicity

This product is not expected to cause long-term adverse health effects.

Genotoxicity

(Potassium Iodide) Oral Administration of potassium iodide to pregnant rat's produced significant chromosomal aberrations in embryonic liver cells, especially during days 7-14 of pregnancy.

Reproductive/Developmental Toxicity

This product is not expected to cause reproductive or developmental health effects.

12. ECOLOGICAL INFORMATION

Mobility

No relevant studies identified.

Persistence/Degradability

The product is readily biodegradable.

Bio-accumulation

Product is not expected to bioaccumulate.

Ecotoxicity

(Potassium Hydroxide) TLm Mosquito fish 80 ppm/24 hr fresh water. /Conditions of bioassay not specified.

13. DISPOSAL

Dispose of in accordance with all applicable local and national regulations.

14. TRANSPORT INFORMATION

DOT CFR 172.101 Data	Not Regulated
UN Proper Shipping Name	Carbons made by steam activation process are not subject to the provision of UN Class 4.2
UN Class	N/A
UN Number	N/A
UN Packaging Group	N/A
Classification for AIR Transportation (IATA)	Not Restricted per Special Provision A3

15. REGULATORY INFORMATION

EU Label Information

Classification and labeling was performed according to EU directives 67/548/EEC and 99/45/EC including amendments.

EU Hazard Symbol and Indication of Danger
C: Corrosive
R phrases
R34: Causes burns.
S phrases
S22: Do not breathe dust.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
S45: In case of accident or if you feel unwell, seek medical advice immediately.
S60: This material and its container must be disposed of as hazardous waste.

US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS

TSCA Listing
All ingredients were verified for inclusion on the EPA Toxic Substance Control Act Chemical Substance Inventory.
EINECS Listing
All ingredients in this product are listed on the European Inventory of Existing Commercial Chemical Substances (EINECS) or are exempt from listing.
DSL/NDSL (Canadian) Listing
All ingredients were verified for inclusion on either the Domestic Substance List (DSL) or the Non-Domestic Substance List (NDSL).
WHMIS Classification
E
This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.
California Proposition 65
This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.
SARA Title III Sect. 302 (EHS)
This product does not contain any chemicals subject to SARA Title III Section 302.
SARA Title III Sect. 304
This product does not contain any chemicals subject to SARA Title III Section 304.
SARA Title III Sect. 311/312 Categorization
This product meets the following SARA Title III Section 311/312 categorizations: Acute Hazard.
SARA Title III Sect. 313
This product does not contain a chemical that is listed in Section 313 at or above de minimis concentrations.

16. OTHER INFORMATION

NFPA Ratings

NFPA Code for Flammability - 0
NFPA Code for Health - 3
NFPA Code for Reactivity - 0
NFPA Code for Special Hazards - 0

HMIS Ratings

HMIS Code for Flammability - 0
HMIS Code for Health - 3
HMIS Code for Reactivity - 0
HMIS Code for Personal Protection - See Section 8

Abbreviations

N/A: Denotes no applicable information found or available
CAS#: Chemical Abstracts Service Number
ACGIH: American Conference of Governmental Industrial Hygienists
OSHA: Occupational Safety and Health Administration
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit
NTP: National Toxicology Program
IARC: International Agency for Research on Cancer
R: Risk
S: Safety
LC50: Lethal Concentration 50%
LD50: Lethal Dose 50%
BOD: Biological Oxygen Demand
KoC: Soil Organic Carbon Partition Coefficient

The information in this safety data sheet is based on the best knowledge and legislation available at the time. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular application. As the specific conditions of use are outside the control of the supplier, the user is responsible for ensuring that the product is used in a safe way and in compliance with the relevant requirements of legislation.