



Material Safety Data Sheet

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PRODUCT NAME: Airstream High Efficiency Mining System, AS-600LBC
MANUFACTURER: 3M
DIVISION: Occupational Health & Environ. Safety

ADDRESS: 3M Center
St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 04/23/2003
Supersedes Date: 05/14/1999

Document Group: 09-1354-1

ID Number(s):
70-0708-4592-3

This product is a kit or a multipart product which consists of multiple, independently packaged components. An MSDS for each of these components is included. Please do not separate the component MSDSs from this cover page. The document numbers of the MSDSs for components of this product are:

09-1353-3, 09-1331-9

No revision information is available.

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M AS-200, AS-400, and AS-600 Helmet Assemblies
MANUFACTURER: 3M
DIVISION: Occupational Health & Environ. Safety
ADDRESS: 3M Center
 St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 03/21/2005
Supersedes Date: 04/23/2003

Document Group: 09-1331-9

Product Use:

Intended Use: Respiratory protection

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
ABS	Unknown	30 - 60
Polycarbonate	Unknown	10 - 30
Polyurethane headseal foam	Unknown	5 - 10
CRS Steel Hinge/Brackets	Unknown	3 - 7
Polypropylene filter web	Unknown	1 - 5
Polypropylene and nylon cradle assembly	Unknown	1 - 5
Stainless steel screws/nuts/washers	Unknown	0.5 - 1.5
Spunbonded Polyethylene	Unknown	< 1
Polyethylene/Olefin filter expander	Unknown	< 1
Polyester/Polyurethan foam	Unknown	< 1
Nylon	Unknown	< 1
Neoprene latex	Unknown	< 1
Natural Rubber Latex	Unknown	< 1
Motor Polyetherthane prefilter	Unknown	< 1

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Odor, Color, Grade: Odorless, white, adjustable impact resistant helmet, with pivoting faceshield, and disposable face seal.

General Physical Form: Solid

Immediate health, physical, and environmental hazards: This product, when used under reasonable conditions and in accordance with the 3M directions for use, should not present a health hazard. However, use or processing of the product in a manner not in accordance with the product's directions for use may affect the performance of the product and may present potential health and safety hazards. Although no adverse reactions are expected with the use of this product, individuals with sensitivity to natural rubber materials should not use this respirator.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

No health effects are expected.

Skin Contact:

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

No health effects are expected.

Inhalation:

No health effects are expected.

Ingestion:

No health effects are expected.

3.3 POTENTIAL ENVIRONMENTAL EFFECTS

Not determined.

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: No need for first aid is anticipated.

Skin Contact: If signs/symptoms develop, get medical attention. No need for first aid is anticipated.

Inhalation: No need for first aid is anticipated.

If Swallowed: No need for first aid is anticipated.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	<i>Not Applicable</i>
Flash Point	<i>Not Applicable</i>
Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</i>
OSHA Flammability Classification:	Not Applicable

5.2 EXTINGUISHING MEDIA

Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: No unusual fire or explosion hazards are anticipated.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Not applicable.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

This product is considered to be an article which does not release or otherwise result in exposure to a hazardous chemical under normal use conditions.

7.2 STORAGE

Not applicable.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Not applicable.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Not applicable.

8.2.2 Skin Protection

Not applicable.

8.2.3 Respiratory Protection

Not applicable.

8.2.4 Prevention of Swallowing

Not applicable.

8.3 EXPOSURE GUIDELINES

None Established

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Odor, Color, Grade:	Odorless, white, adjustable impact resistant helmet, with pivoting faceshield, and disposable face seal.
General Physical Form:	Solid
Autoignition temperature	<i>Not Applicable</i>
Flash Point	<i>Not Applicable</i>
Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</i>
Boiling point	<i>Not Applicable</i>
Vapor Density	<i>Not Applicable</i>
Vapor Pressure	<i>Not Applicable</i>
Specific Gravity	<i>Not Applicable</i>
pH	<i>Not Applicable</i>
Melting point	<i>No Data Available</i>
Solubility In Water	<i>Not Applicable</i>
Evaporation rate	<i>Not Applicable</i>
Volatile Organic Compounds	<i>Not Applicable</i>
Percent volatile	<i>Not Applicable</i>
VOC Less H₂O & Exempt Solvents	<i>Not Applicable</i>
Viscosity	<i>Not Applicable</i>

SECTION 10: STABILITY AND REACTIVITY**Stability:** Stable.**Materials and Conditions to Avoid:** None known**Hazardous Polymerization:** Hazardous polymerization will not occur.**Hazardous Decomposition or By-Products**

Substance
Aldehydes

Condition
Not Specified

Hydrocarbons	Not Specified
Methane	Not Specified
Carbon monoxide	Not Specified
Carbon dioxide	Not Specified
Ketones	Not Specified
Toxic Vapor, Gas, Particulate	Not Specified

Hazardous Decomposition: Under recommended usage conditions, hazardous decomposition products are not expected. Hazardous decomposition products may occur as a result of oxidation, heating, or reaction with another material.

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not applicable.

CHEMICAL FATE INFORMATION

Not applicable.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Reclaim if feasible. Dispose of used product by the same method as recommended for the disposal of the substance the respirator was used for.

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14: TRANSPORT INFORMATION

AS-200,400,600

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

This product is an article as defined by TSCA regulations, and is exempt from TSCA Inventory listing requirements.

Contact 3M for more information.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 1 Flammability: 1 Reactivity: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Reason for Reissue: The MSDS has been revised because 3M has adopted the 16-section ANSI/ISO format. The potential hazards of the product have not changed. We encourage you to reread the MSDS and review the information.

Revision Changes:

- Section 16: NFPA hazard classification heading was modified.
- Section 3: Potential environmental effects heading was modified.
- Copyright was modified.
- Section 5: Fire fighting procedures information was modified.
- Section 15: 311/312 hazard categories heading was modified.
- Section 15: International regulations information was modified.
- Section 15: State regulations information was modified.
- Section 15: US federal regulations information was modified.
- Section 10: Hazardous polymerization heading was modified.

Section 16: NFPA explanation was modified.
Section 15: Inventories information was modified.
Article disclaimer text (following the copyright) was modified.
Section 12: Ecotoxicological information heading was modified.
Section 12: Chemical fate information heading was modified.
Section 16: NFPA hazard classification for special hazards was modified.
Section 8: Exposure guidelines information - none - was modified.
Section 10: Hazardous decomposition heading was modified.
Section 12: Ecotoxicological phrase was modified.
Section 12: Chemical Fate phrase was modified.
Section 2: Ingredient phrase was added.
Section 16: Reason for reissue heading was added.
Section 16: Reason for reissue phrase was added.

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: D Cell Nickel Cadmium Battery Pack, 4.8 VDC
MANUFACTURER: 3M
DIVISION: Occupational Health & Environ. Safety

ADDRESS: 3M Center
 St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 04/16/2004
Supercedes Date: 04/08/2003

Document Group: 09-1353-3

Product Use:

Intended Use: Battery

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
Nickel, Nickel hydroxide, Nickel oxide	Unknown	20 - 32
Cadmium, Cadmium hydroxide, Cadmium oxide	Unknown	13 - 22
Sodium Hydroxide	Unknown	0 - 4
Potassium Hydroxide	Unknown	0 - 4
Cobalt, Cobalt oxide, Cobalt hydroxide	Unknown	0.5 - 2

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Odor, Color, Grade: Odorless, polypropylene sealed case which contains sealed Nickel Cadmium batteries

General Physical Form: Solid

Immediate health, physical, and environmental hazards: This product, when used under reasonable conditions and

in accordance with the 3M directions for use, should not present a health hazard. However, use or processing of the product in a manner not in accordance with the product's directions for use may affect the performance of the product and may present potential health and safety hazards.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

No health effects are expected.

Skin Contact:

No health effects are expected.

Inhalation:

No health effects are expected.

Ingestion:

No health effects are expected.

3.3 POTENTIAL ENVIRONMENTAL EFFECTS

Not determined.

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: No need for first aid is anticipated.

Skin Contact: No need for first aid is anticipated.

Inhalation: No need for first aid is anticipated.

If Swallowed: No need for first aid is anticipated.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	<i>Not Applicable</i>
Flash Point	<i>Not Applicable</i>
Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</i>
OSHA Flammability Classification:	<i>Not Applicable</i>

5.2 EXTINGUISHING MEDIA

Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: No unusual fire or explosion hazards are anticipated.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Not applicable.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

This product is considered to be an article which does not release or otherwise result in exposure to a hazardous chemical under normal use conditions.

7.2 STORAGE

Not applicable.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Not applicable.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Not applicable.

8.2.2 Skin Protection

Not applicable.

8.2.3 Respiratory Protection

Not applicable.

8.2.4 Prevention of Swallowing

Not applicable.

8.3 EXPOSURE GUIDELINES

None Established

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Odor, Color, Grade:	Odorless, polypropylene sealed case which contains sealed Nickel Cadmium batteries
General Physical Form:	Solid
Autoignition temperature	<i>Not Applicable</i>
Flash Point	<i>Not Applicable</i>
Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</i>
Boiling point	<i>Not Applicable</i>
Vapor Density	<i>Not Applicable</i>
Vapor Pressure	<i>Not Applicable</i>
Specific Gravity	<i>Not Applicable</i>
pH	<i>Not Applicable</i>
Melting point	<i>No Data Available</i>
Solubility In Water	<i>Not Applicable</i>
Evaporation rate	<i>Not Applicable</i>
Volatile Organic Compounds	<i>Not Applicable</i>
Percent volatile	<i>Not Applicable</i>
VOC Less H₂O & Exempt Solvents	<i>Not Applicable</i>
Viscosity	<i>Not Applicable</i>

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: None known

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
None known.	Not Specified

Hazardous Decomposition: Under recommended usage conditions, hazardous decomposition products are not expected. Hazardous decomposition products may occur as a result of oxidation, heating, or reaction with another material.

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not applicable.

CHEMICAL FATE INFORMATION

Not applicable.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Nickel-Cadmium batteries are to be recycled. 3M Occupational Health & Environmental Safety Division has a license agreement with Rechargeable Battery Recycling Corporation (RBRC) for recycling of used Battery Packs containing Nickel-Cadmium batteries. Please call 1-800-BATTERY for instructions on the nearest recycling location for your area.

EPA Hazardous Waste Number (RCRA): D006 (Cadmium)

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14: TRANSPORT INFORMATION

520-01-02R01

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - No Delayed Hazard - No

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

This product is an article as defined by TSCA regulations, and is exempt from TSCA Inventory listing requirements.

Contact 3M for more information.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 0 Flammability: 0 Reactivity: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 0 Flammability: 0 Reactivity: 0 Protection: X - See PPE section.

Hazardous Material Identification System (HMIS(r)) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS(r) ratings are to be used with a fully implemented HMIS(r) program. HMIS(r) is a registered mark of the National Paint and Coatings Association (NPCA).

Revision Changes:

Section 16: NFPA hazard classification heading was modified.
Section 16: HMIS hazard classification heading was modified.
Section 3: Potential environmental effects heading was modified.
Copyright was modified.
Section 5: Fire fighting procedures information was modified.
Section 15: 311/312 hazard categories heading was modified.
Section 15: International regulations information was modified.
Section 15: State regulations information was modified.
Section 15: US federal regulations information was modified.
Section 10: Hazardous polymerization heading was modified.
Section 16: HMIS explanation was modified.
Section 16: NFPA explanation was modified.
Section 15: Inventories information was modified.
Article disclaimer text (following the copyright) was modified.
Section 12: Ecotoxicological information heading was modified.
Section 12: Chemical fate information heading was modified.
Section 16: NFPA hazard classification for special hazards was modified.
Section 8: Exposure guidelines information - none - was modified.
Section 10: Hazardous decomposition heading was modified.

Section 12: Ecotoxicological phrase was modified.

Section 12: Chemical Fate phrase was modified.

Section 13: EPA hazardous waste number (RCRA) heading was added.

Section 13: EPA hazardous waste number (RCRA) information was added.

Section 2: Ingredient phrase was added.

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