



Whitford Corporation, Box 2347, West Chester, PA 19380-0110 • Tel: (610) 296-3200 • Fax: (610) 647-4849

HMS: H=2\*, F=2, R=0, PPE=J

\* = Chronic health effects may occur

**MATERIAL SAFETY DATA SHEET**  
for  
**COATINGS, RESINS, and RELATED MATERIALS**

**SECTION I - PRODUCT IDENTIFICATION**

Corporate Address:  
33 Sproul Road  
Frazer, PA 19355

Trade Name & Synonyms:  
**ALCHEMETAL**

Emergency Telephone Number: (610) 296-3200  
24 Hours a Day

Formula:  
**D2744 ALCHEMETAL AC-78 COATING**

P.C. Number: **D2744**

Date of Preparation: 20 April 2006

FAX: (610) 647-4849

Supercedes: 18 April 2001

**IMPORTANT: BEFORE USING ALCHEMETAL D2744 ALCHEMETAL AC-78 COATING,  
HAVE ALL PROCESSING PERSONNEL READ THIS DOCUMENT!**

**SECTION II - HAZARDOUS INGREDIENTS AND OCCUPATIONAL EXPOSURE LIMITS**

Chemical(s) with CAS RN and vapor pressure (if applicable)	OSHA PEL	ACGIH TLV	Manufacturer's Recommendation
NICKEL 7440-02-0	TWA = 1 mg/m <sup>3</sup>	TWA = 1.5 mg/m <sup>3</sup>	No recommendation
NICKEL OXIDE 1313-99-1	TWA = 1 mg/m <sup>3</sup>	TWA = 0.2 mg/m <sup>3</sup>	No recommendation
N-METHYLPYRROLIDONE (NMP) 872-50-4 0.3 mm Hg at 20 C	Not established	Not established	No recommendation
SOLVENT NAPHTHA HEAVY AROMATIC 64742-94-5 3.0 mm Hg at 25 C	Not established	Not established	No recommendation
NAPHTHALENE 91-20-3	TWA = 10 ppm, 50 mg/m <sup>3</sup> .	(skin) TWA = 10 ppm STEL = 15 ppm	No recommendation

**SECTION III - PHYSICAL DATA**

Appearance . . . . . Viscous, metallic-gray, liquid dispersion.  
Boiling point (range) . . 176 TO 210 degrees C  
Vapor density . . . . . Heavier than air  
Evaporation rate . . . . . Slower than ether  
Specific gravity (H2O = 1) 2.00  
Percent volatile by volume 71.5 %  
Volatile organics (VOC) 5.98 Lbs VOC/Gal less water (717.6 Gms/Lt)

**SECTION IV - FIRE AND EXPLOSION HAZARD DATA**

Lower Explosive Limit (%): 1.00

Flash point (Method Used): 82 degrees C (Setaflash)

Extinguishing Media:

Use carbon dioxide (CO2), "alcohol" foam, dry chemical, or water spray/water fog extinguishing systems.

Special Fire Fighting Procedures:

Firemen and emergency responders: wear full turnout gear or Level A equipment including positive-pressure, self-contained breathing apparatus (SCBA). If evacuation of personnel is necessary, evacuate to an upwind area. Decontaminate personnel and equipment with a water wash-down after fire and smoke exposure.

Unusual Fire and Explosion Hazards:

The product vapor is heavier than air and may travel a considerable distance to a source of ignition and flashback.

**SECTION V - HEALTH HAZARD DATA**

Primary Route(s) of Entry and Exposure:

Inhalation: Yes Skin absorption: No Ingestion: Yes Skin or eye contact: Yes

Carcinogenicity: The following chemicals comprise 0.1% or more of this mixture and are listed and/or classified as carcinogens or potential carcinogens by NTP, IARC, OSHA (mandatory listing), or ACGIH (optional listing).

<u>Chemical</u>	<u>Reference</u>	<u>Category</u>
NICKEL	NTP IARC ACGIH	ANTICIPATED CARCINOGEN POSSIBLE HUMAN CARCINOGEN (GROUP 2B) CONFIRMED HUMAN CARCINOGEN
NICKEL OXIDE	NTP ACGIH	ANTICIPATED CARCINOGEN CONFIRMED HUMAN CARCINOGEN
NAPHTHALENE	NTP IARC	Reasonably anticipated human carcinogen Group 2B-Possible human carcinogen

**Effects of Overexposure, NICKEL:**

Inhalation -	Epidemiological studies of workers exposed to dust and fumes generated in the production of stainless steel, nickel alloys, and nickel powder have not indicated the presence of a significant respiratory cancer hazard.
Skin contact -	Repeated contact with metallic nickel may cause nickel sensitivity and allergic skin rashes. Skin contact may cause an allergic skin rash in previously sensitized individuals.
Skin absorption -	No data found.
Eye contact -	No data found.
Ingestion -	NIOSH has concluded that nickel and its inorganic compounds are not carcinogenic when ingested. The US FDA has affirmed that nickel is Generally Recognized As Safe (GRAS) as a direct human food ingredient.
Systemic & other effects -	No data found.
Supplemental health information -	<p>The NTP has listed nickel as reasonably anticipated to be a carcinogen based on the production of injection-site tumors. The IARC found there was inadequate evidence that metallic nickel is carcinogenic to humans, but since there was sufficient evidence that it is carcinogenic to animals, IARC concluded that metallic nickel is possibly carcinogenic to humans (Group 2B).</p> <p>Repeated intratracheal instillation of nickel powder produced an increased incidence of malignant lung tumors in rats. However, nickel powder did not produce an increased incidence of malignant lung tumors in hamsters when administered at maximum tolerated dose. Single intratracheal instillations of nickel powder in hamsters at doses near LD50 produced an increased incidence of fibrosarcomas, mesotheliomas and rhabdomyosarcomas. Nickel metal powder has caused tumors at the site of injection in rodents; however, studies do not suggest a significant risk for humans from nickel-containing prostheses.</p>

**Effects of Overexposure, NICKEL OXIDE:**

Inhalation -	Temporary irritation of the respiratory tract may result from excessive overexposure.
Skin contact -	No data found.

**WHITFORD CORPORATION  
MATERIAL SAFETY DATA SHEET  
ALCHEMETAL D2744 ALCHEMETAL AC-78 COATING  
20 April 2006**

Page 4

Skin absorption -	No data found.
Eye contact -	This material is an inert dust hazard and may cause mechanical irritation to the eyes.
Ingestion -	No data found.
Systemic & other effects -	No data found.
Supplemental health information -	Both the NTP Third Annual Report on Carcinogens and IARC Monographs cite limited evidence for carcinogenicity to humans of certain nickel compounds and sufficient evidence for carcinogenicity to animals. However, both state it is not possible to identify which specific nickel compounds might be carcinogenic to humans. Nickel, as found in this pigment, is not listed in the groups of compounds thought to be carcinogenic to either humans or animals.

**Effects of Overexposure, N-METHYLPYRROLIDONE (NMP):**

Inhalation -	May cause irritation of the respiratory tract.
Skin contact -	NMP is a moderate skin irritant and may cause delayed skin irritation. Human experience has demonstrated redness, cracking and blistering of skin through repeated or prolonged contact.
Skin absorption -	No significant signs or symptoms indicative of any health hazard are expected to occur as a result of skin absorption exposure.
Eye contact -	Eye contact with NMP may cause moderate eye irritation including burning sensation, tearing, redness or swelling. May cause temporary corneal clouding.
Ingestion -	NMP may be a health hazard if ingested in large quantities. Symptoms include nausea, dizziness, and vomiting.
Systemic & other effects -	No relevant human data found.
Supplemental health information -	NMP was reported to effect pregnancy and/or fetal development in laboratory animals. Recently completed studies and an independent, expert review of previous studies confirm that NMP is not a mutagen, teratogen, carcinogen, or reproductive toxin.

**Effects of Overexposure, SOLVENT NAPHTHA HEAVY AROMATIC:**

Inhalation -	Excessive inhalation of vapors may cause nasal and respiratory irritation, central nervous system effects including dizziness, weakness, fatigue, nausea, headache, and possible unconsciousness, and even asphyxiation.
Skin contact -	Prolonged or repeated contact may cause moderate irritation, defatting, and dermatitis.
Skin absorption -	No data found.
Eye contact -	May cause severe irritation, redness, tearing, and blurred vision.
Ingestion -	May cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
Systemic & other effects -	Aspiration of material into the lungs, due to vomiting, may cause chemical pneumonitis, which can be fatal.
Supplemental health information -	No data found.

**Effects of Overexposure, NAPHTHALENE:**

Inhalation -	High vapor concentrations (greater than 1000 ppm) are irritating to the eyes and the respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness, and other central nervous system effects, including death.
Skin contact -	Prolonged or repeated contact may cause moderate irritation, defatting, and dermatitis.
Skin absorption -	No data found.
Eye contact -	Slightly irritating but does not injure eye tissue.
Ingestion -	Small amounts of Naphthalene aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury, possibly progressing to death.
Systemic & other effects -	No data found.
Supplemental information -	Naphthalene is classified as an OSHA carcinogen.

Emergency & First Aid Procedures:

Inhalation - If overcome by product vapors, mists, or processing fumes, remove the person from exposure immediately; call a physician. If breathing is irregular or stopped, start resuscitation. Administer oxygen if a qualified operator is available.

Skin contact - In case of skin contact, remove contaminated clothing. Flush the skin with large amounts of water, then wash the skin with soap and water.

Eye contact - In case of eye contact, flush the eyes with water for fifteen (15) minutes. If contact lenses are worn, quickly remove them, then flush the eyes with water. Have a physician examine the eyes.

Ingestion - If material is ingested, seek immediate medical attention. If vomiting occurs spontaneously, keep the head below the hips to prevent aspiration of liquid into the lungs.

**SECTION VI - REACTIVITY DATA**

Stability:

- stable

Incompatibility (Materials to Avoid):

- strong oxidizing agents, acids, and alkali/base/caustic solutions
- ammonium nitrate, perchlorates, phosphorous, selenium, and sulfur

Hazardous Decomposition Products:

- oxides of nickel
- oxides of carbon
- oxides of nitrogen

Hazardous Polymerization:

- will not occur

**SECTION VII - SPILL OR LEAK PROCEDURES**

Steps to be Taken in Case Material is Released or Spilled:

Spill supervisor - Ensure cleanup personnel wear all appropriate Personal Protective Equipment (PPE), including respiratory protection. If this product has a numerical flashpoint (see Section IV), remove all ignition sources; if the flashpoint is NONE, this precaution is unnecessary. Keep nonessential personnel away from the contaminated area.

Prevent this material from entering sewers and watercourses by diking or impounding the spilled material. Advise authorities if the product has entered or may enter, sewers, watercourses, or extensive land areas.

**WHITFORD CORPORATION  
MATERIAL SAFETY DATA SHEET  
ALCHEMETAL D2744 ALCHEMETAL AC-78 COATING  
20 April 2006**

Page 7

Ventilate the contaminated area. If this product has a numerical flashpoint (see Section IV), use nonsparking (bronze, aluminum, plastic, wood) tools to clean up the spill. If the flashpoint is NONE, use conventional steel tools (or those just described) to clean up the spill. Use the recommended tool type to mix the appropriate sorbent into the spilled material. Use an absorbent like sawdust for aqueous, waterborne, and solvent-borne coatings.

Collect the saturated sorbent and transfer it into a covered container. Steel containers are acceptable for all wastes except wastes which contain acid. Label the waste container. Dispose of the waste in compliance with all Federal, state, regional, and local regulations.

Waste Disposal Method:

As the US EPA, state, regional, and other regulatory agencies may have jurisdiction over the disposal of your facility's hazardous waste, it is incumbent upon you, the hazardous waste generator, to learn of and satisfy all the requirements which affect you. Dispose of hazardous waste at a properly licensed/permitted disposal facility. Ensure conformity to all applicable hazardous waste disposal regulations.

The US EPA Hazardous Waste Numbers which follow are applicable to this unadulterated product if the product enters the "waste stream." Refer to Title 40 of the Code of Federal Regulations, Part 261 (40 CFR 261). This part of the Code identifies solid wastes which are subject to regulation under various sections of the Code and which are subject to the notification requirements of Section 3010 of the Resource Conservation and Recovery Act (RCRA).

None

**SECTION VIII - SAFE HANDLING & USE INFORMATION**

**Respiratory Protection:**

Respiratory protection may not be needed if the local exhaust is sufficient to maintain levels of hazardous ingredients below occupational exposure limits. If needed, use a NIOSH/MSHA approved respirator equipped with organic vapor cartridges and high-efficiency, particulate air (HEPA) filters.

Do not use respirators beyond their capabilities. For emergencies and unknown concentrations, use supplied-air respiratory protection or a positive-pressure, self-contained, breathing apparatus (SCBA).

**Ventilation:**

Use only with adequate ventilation, i.e., ventilation in compliance with occupational exposure limits. Ensure processing (curing) ovens are properly vented to prevent the introduction of processing fumes into the workplace.

**Local Exhaust:**

Local exhaust is recommended to ensure adequate ventilation.

**Mechanical (General):**

Use explosion-proof equipment and good manufacturing practice.

Special:

Safety showers and eyewash fountains should be readily available to personnel who handle this material. Enforce "No Smoking" rules. If this product has a numerical flashpoint (see Section IV), do not handle it in close proximity to unshielded light fixtures.

Protective Gloves:

Wear chemical-resistant gloves (butyl rubber or neoprene). Protective gloves should be inspected frequently and discarded when they exhibit cuts, tears, pinholes, or signs of excessive wear.

Eye Protection:

Wear splash goggles. If extra protection is required, wear a face shield over the splash goggles. Face shields are effective only if worn in addition to splash goggles.

Other Protective Equipment:

Wear a chemical-resistant, butyl-rubber apron and other protective clothing, as deemed appropriate, to avoid skin contact with material.

### **SECTION IX - SPECIAL PRECAUTIONS**

Precautions to be Taken When Handling and Storing:

Wear all appropriate Personal Protective Equipment (PPE). Wear respiratory protection or ensure adequate ventilation at all times as vapors can accumulate in confined or poorly ventilated areas. Use the product in a manner which minimizes splashes and/or the creation of dust.

Keep containers closed when not in use. Do not handle or store material near heat, sparks, open flames, or other sources of ignition. Store at room temperatures, i.e., 40 to 95 F (4 to 35 C).

Other Precautions:

Good personal hygiene and good housekeeping are important. Wear fresh work clothing daily. Contaminated work clothes and shoes must not be worn home. Launder contaminated clothing before reuse. Remove contaminated shoes; clean and dry thoroughly before reuse.

Do not smoke or eat in the work area. Before eating, work clothes should be removed, or dust should be vacuumed off of the clothing. Thoroughly wash hands and face before eating. Take every precaution to avoid inhalation and ingestion of product residue.

Do not use compressed air to clean contaminated floors or equipment. Surfaces should be cleaned by vacuuming or wet scrubbing. Vacuum cleaners should be suitable for use in an industrial environment (e.g., explosion proof, if necessary) and equipped with high-efficiency, particulate air (HEPA) filters).

**WHITFORD CORPORATION  
MATERIAL SAFETY DATA SHEET  
ALCHEMETAL D2744 ALCHEMETAL AC-78 COATING  
20 April 2006**

Page 9

Avoid breathing product vapors, spray mist, and residue. Avoid breathing processing fumes. Avoid skin contact. Avoid eye contact. Avoid ingestion.

Spilled material may cause the floor or contaminated area to become slippery.

**SECTION X - REGULATORY INFORMATION**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

CHEMICAL	CAS NUMBER	PERCENTAGE
NICKEL	7440-02-0	58.619312
NICKEL COMPOUND	1313-99-1	0.176387
N-METHYL-2-PYRROLIDONE	872-50-4	28.847135
NAPHTHALENE	91-20-3	0.529531

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs), under the reporting requirements of 40 CFR 61. This product contains the following HAPs:

CHEMICAL	CAS NUMBER	PERCENTAGE
NICKEL	7440-02-0	58.619312
Nickel Compound	1313-99-1	0.176387
4,4'-Methylenedianiline	101-77-9	0.011701
Naphthalene	91-20-3	0.529531

TOXIC SUBSTANCES CONTROL ACT (TSCA): All chemicals in this product appear in the Toxic Substance Control Act Chemical Substance Inventory.

NON-WARRANTY. The information presented in this publication is based upon the research and experience of Whitford. No representation or warranty is made, however, concerning the accuracy or completeness of the information presented in this publication. Whitford makes no warranty or representation of any kind, expressed or implied, including without limitation any warranty of merchantability or fitness for any particular purpose, and no warranty or representation shall be implied by law or otherwise. Any products sold by Whitford are not warranted as suitable for any particular purpose to the buyer. The suitability of any products for any purpose particular to the buyer is for the buyer to determine. Whitford assumes no responsibility for the selection of products suitable to the particular purposes of any particular buyer. Whitford Corporation shall in no event be liable for any special, incidental, or consequential damages.