MATERIAL SAFETY DATA SHEET

in accordance with 1907/2006/EC

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product Name: 725 Nickel Anti-Seize Compound (Aerosol)

Date: 20 April 2007 **MSDS No.** 157A-18

Hazardous according to criteria of Worksafe Australia.

Company:
A.W. CHESTERTON COMPANY
860 Salem Street
Groveland, MA 01834-1507, USA
Tel.: +1 978-469-6446 Fax: +1 978-469-6785
E-mail: customer.service@chesterton.com
(Mon. - Fri. 8:30 - 5:00 PM EST)

Supplier:

For Chemical Emergency:
24 hours per day, 7 days per week
Call Infotrac: 1-800-535-5053
Outside N. America: +1 352-323-3500 (collect)

Use: Petroleum base. Use on stainless steel, steel, iron, aluminum, copper, brass, titanium, etc. Do not use on oxygen systems.

2. HAZARDS IDENTIFICATION

Highly flammable. Harmful. Limited evidence of a carcinogenic effect. Irritating to skin. May cause sensitisation by skin contact. Vapours may cause drowsiness and dizziness. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Contents under pressure.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredients[1]	% Wt.	CAS No.	EC No.	Symbol	R-phrases
Low Boiling Point Naphtha*	30-40	8032-32-4 or 64742-89-8 or 64742-48-9	232-453-7 or 265-192-2 or 265-150-3	F, Xn	11-38-51/53-65-67
Petroleum Gases, Liquefied, Sweetened**	10-20	68476-86-8	270-705-8	F+	12
Nickel	10-15	7440-02-0	231-111-4	Xn	40-43
Aluminum	1-5	7429-90-5	231-072-3	F	10-15
Methanol	0.1-0.2	67-56-1	200-659-6	F, T	11-23/24/25-39/23/24/25
Graphite	1-5	7782-42-5	231-955-3	–	–
Other Ingredients[1]:					
Distillates (Petroleum), Hydrotreated Naphthenic***	10-20	64742-53-6 or 64742-52-5	265-156-6 or 265-155-0	–	–

[1]Classified according to:
* 29 CFR 1910.1200, 1915, 1916, 1917
* Mass. Right-to-Know Law (ch. 40, M.G.L..O. 111F)
* Controlled Products Regulations
* 67/548/EEC (2004/73/EC) and 99/45/EC
* Worksafe Australia [NOHSC: 1008 (2004)]

*Contains less than 0.1 % w/w Benzene. **Contains less than 0.1 % w/w 1,3-Butadiene. ***Contains less than 3 % DMSO extract as measured by IP 346.
See section 15 for text of R-phrases on the label and section 16 for others.

4. FIRST AID MEASURES

Inhalation: Remove to fresh air. If not breathing, administer artificial respiration. Contact physician.

Skin Contact: Wash skin with soap and water. Contact physician if irritation persists.

Eye Contact: Flush eyes for at least 15 minutes with large amounts of water. Contact physician if irritation persists.

Ingestion: Do not induce vomiting. Contact physician immediately.

Advice to Physician: Treat symptoms.

5. FIRE-FIGHTING MEASURES

Extinguishing Methods: Carbon Dioxide, dry chemical, foam or water fog

Unusual Fire and Explosion Hazards: Pressurized containers, when heated, are a potential explosive hazard.

Special Fire Fighting Measures: Cool exposed containers with water. Recommend Firefighters wear self-contained breathing apparatus.

Flammability Classification: –

HAZCHEM Emergency Action Code: 2 Y

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Utilize exposure controls and personal protection as specified in Section 8.

Environmental Precautions: Keep out of sewers, streams and waterways.

Methods of Clean Up: Scoop up and transfer to a suitable container for disposal. Keep away from sources of ignition - No smoking.

7. HANDLING AND STORAGE

Handling: Observe good work practice - avoid eating, drinking and smoking in the work area while using any hydrocarbons. Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No Smoking.

Storage: Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C (120°F). Do not pierce or burn, even after use.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Hazardous Ingredients	OSHA		ACGIH TLV		AUSTRALIA	
	ppm	mg/m^3	ppm	mg/m^3	ppm	mg/m^3
Low Boiling Point Naphtha	–	–	300	1370	–	–
Petroleum Gases, Liquefied, Sweetened	1000	–	1000	–	1000	–
Nickel*	–	1	(inhalable)	1.5	–	1
Aluminum*	–	15	–	10	–	10
Methanol	200	260	200 STEL 250	–	200 (skin) STEL 250	262 328
Graphite	15 mppcf	(resp)	(resp)	2	(resp)	3
Oil Mist, Mineral	–	5	–	5 STEL 10	–	5

*The nickel, aluminum and graphite in this product do not separate from the mixture or in of themselves become airborne, therefore, do not present a hazard in normal use.

Respiratory Protection: Not normally needed. If exposure limits are exceeded, use approved organic vapor respirator.

Ventilation: Use only in well-ventilated areas. If exposure limits are exceeded, provide adequate ventilation.

Protective Gloves: Chemical resistant gloves

Nickel:

Contact type	Glove material	Layer thickness	Breakthrough time *
Full	nitrile rubber	0.11 mm	> 480 Min.
Splash	nitrile rubber	0.11 mm	> 480 Min.

*Determined according to EN374 standard.

Eye Protection: Safety glasses

Other: none

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid	**Odour**	petroleum
Colour	gray	**Vapour pressure @ 20°C**	not determined
Initial boiling point	121°C (250°F)	**% Aromatics by weight**	3.6% maximum
Melting point	not determined	**pH**	not applicable
% Volatile (by volume)	76.9%	**Density**	0,9 kg/l
Flash point	17°C (63°F), product only	**Weight per volume**	7.8 lbs/gal.
Method	PM Closed Cup	**Coefficient (water/oil)**	< 1
Viscosity	20-30 cps @ 25°C	**Vapour density (air=1)**	> 1
Autoignition temp.	not determined	**Rate of evaporation (ether=1)**	< 1
Explosion limits	not determined	**Solubility in water**	insoluble
		Other	none

10. STABILITY AND REACTIVITY

Stability: Stable

Hazardous Polymerization: Will not occur.

Hazardous Decomposition Products: Carbon Monoxide, Carbon Dioxide, aldehydes and other toxic fumes.

Conditions to Avoid: Open flames, heat, sparks and red hot surfaces.

Materials to Avoid: Strong acids, alkalis and strong oxidizers like liquid Chlorine and concentrated Oxygen.

11. TOXICOLOGICAL INFORMATION

Primary Route of Exposure Under Normal Use: Inhalation, skin and eye contact. Personnel with pre-existing skin disorders are generally aggravated by exposure.

Acute Effects: Irritating to skin. High vapor concentrations may cause eye and respiratory tract irritation, dizziness, headache and other central nervous system effects.

Substance	Test	Result
Low Boiling Point Naphtha (CAS No. 64742-48-9)	LC50 inhalation, rat	> 2000 ppm/4 h
Low Boiling Point Naphtha (CAS No. 64742-48-9)	LD50 oral, rat	> 10000 mg/kg
Low Boiling Point Naphtha (CAS No. 64742-48-9)	LC50 dermal, rabbit	> 3200 mg/kg
Nickel	LD50 oral, rat	> 9000 mg/kg
Methanol	LC50 inhalation, rat	64000 ppm(V)/4 h
Methanol	LD50 oral, rat	5628 mg/kg
Methanol	Human lethal dose	143 mg/kg

Chronic Effects: Prolonged or repeated skin contact may defat the skin and cause dermatitis. The National Toxicology Program (NTP) has listed Nickel powder as a potential carcinogen based on inhalation studies. The International Agency for Research on Cancer (IARC) considers certain forms of Nickel to be cancer causing, but has not published a list of specific Nickel compounds. The Nickel in this product is not in powder form and should not present a hazard in normal use.

Other Information: WARNING: This product contains a chemical(s) known to the State of California to cause cancer.

12. ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. The information given below is based on a knowledge of the components and the ecotoxicology of similar substances.

Mobility: Liquid. Insoluble in water. In determining environmental mobility, consider the product's physical and chemical properties (see Section 9).

Degradability: Low Boiling Point Naphtha: can degrade in air; may biodegrade. Mineral Oil: not readily biodegradable.

Accumulation: Mineral Oil: not expected to bioaccumulate.

Ecotoxicity: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Incinerate absorbed material with a properly licensed facility. Incinerate pressurized or sealed containers in an approved facility. Check local, state and national/federal regulations and comply with the most stringent requirement. Treatment for nickel may need to be provided after incineration and prior to any land disposal.

EWC-code: 15 01 10, 06 04 05

14. TRANSPORT INFORMATION

TDG: AEROSOLS, FLAMMABLE, CLASS 2.1, UN1950

IMDG: *AEROSOLS, CLASS 2, UN1950
***NOTE:** Shipped as DANGEROUS GOODS IN LIMITED QUANTITY OF CLASS 2 Ref: IMDG Code 2000 - Chapter 3.2 Dangerous Goods List for UN1950, Aerosols, column 7 (limited quantities) page 93, special provisions 277 page186 and Chapter 3.4 (Limited quantities) page192

IATA/ICAO: AEROSOLS, FLAMMABLE, CLASS 2.1, UN1950

ADR/RID: 1950 AEROSOLS, 2, 5F, ADR

U.S. DOT :
Shipping Name: [1] AEROSOLS, FLAMMABLE
Hazard Class: 2.1
UN/NA #: UN1950
Packaging Group #: Not Applicable
Emergency Response Guide Book No 126
[1] **NOTE:** Shipped as Consumer Commodity ORM-D in packaging having a rated capacity gross weight of 66 lb. or less (49 CFR 173.306(h)).

15. REGULATORY INFORMATION

European Classification[1]: F - Highly flammable; Xn - Harmful; N - Dangerous for the environment

R-Phrase(s):

R40	Limited evidence of a carcinogenic effect.
R38	Irritating to skin.
R43	May cause sensitisation by skin contact.
R67	Vapours may cause drowsiness and dizziness.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-Phrase(s):

S16	Keep away from sources of ignition - No smoking.
S23	Do not breathe vapour/spray.
S36/37	Wear suitable protective clothing and gloves.
S25	Avoid contact with eyes.
S51	Use only in well-ventilated areas.
S61	Avoid release to the environment. Refer to special instructions/safety data sheets.

Name of the substances on the label: Nickel

Other information: Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C (120°F). Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material.

Canadian Classification[1]: A: Compressed gases; B5: Flammable aerosols; D2A: Very toxic materials causing other effects

Risk Phrase(s): Flammable aerosol. Limited evidence of a carcinogenic effect. Irritating to skin. May cause sensitisation by skin contact. Vapours may cause drowsiness and dizziness.

Precautionary and First Aid Measure(s): Keep away from sources of ignition - No smoking. Do not breathe vapour/spray. Wear suitable protective clothing, gloves and eye protection. Use only in well-ventilated areas. If affected by vapour, move to fresh air. After contact with skin, wash with plenty of soap and water. In case of contact with eyes, rinse with plenty of water and seek medical advice.

Other Information: Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C (120°F). Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material.

16. OTHER INFORMATION

US EPA SARA TITLE III

312 Hazards :
Fire
Immediate
Delayed
Pressure Release

313 Chemicals :

Nickel	7440-02-0	10-15%
Aluminum	7429-90-5	1-5%

TSCA: All chemical components are listed in the TSCA inventory.

Hazardous Materials Identification System (HMIS)

4 = Severe Hazard
3 = Serious Hazard
2 = Moderate Hazard
1 = Slight Hazard
0 = Minimal Hazard
* = See Section 8

HEALTH	**2**
FLAMMABILITY	**3**
REACTIVITY	**1**
Personal Protection	*****

JAPAN PRTR	Class I Chemicals :	Class II Chemicals :
	Nickel	none

Risk phrases in section 2:
R10: Flammable.
R11: Highly flammable.
R12: Extremely flammable.
R15: Contact with water liberates extremely flammable gases.
R23/24/25: Toxic by inhalation, in contact with skin and if swallowed.
R38: Irritating to skin.
R39/23/24/25: Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R40: Limited evidence of a carcinogenic effect.
R43: May cause sensitisation by skin contact.
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65: Harmful: may cause lung damage if swallowed.
R67: Vapours may cause drowsiness and dizziness.

Changes to the MSDS in this revision: sections 1, 11, 12.

This information is based solely on data provided by suppliers of the materials used, not on the mixture itself. No warranty is expressed or implied regarding the accuracy of the data or the suitability of the product for the user's particular purpose. The user must make their own determination as to suitability.