

## SAFETY DATA SHEET

in accordance with 1907/2006/EC (REACH, as amended by 830/2015/EC) and 29 CFR 1910.1200

**Revision date:** 26 October 2015

**Initial date of issue:** 20 April 2007

**SDS No.** 157A-23

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1. Product identifier

725 Nickel Anti-Seize Compound (Aerosol)

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

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

#### 1.3. Details of the supplier of the safety data sheet

**Company:**

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

**Supplier:**

#### 1.4. Emergency telephone number

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

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1. Classification of the substance or mixture

##### 2.1.1. Classification according to Regulation (EC) No 1272/2008 [CLP] / 29 CFR 1910.1200 / WHMIS 2015 / GHS

Aerosol 1, H222  
STOT RE 1, H372  
Carc. 2, H351  
Skin Irrit. 2, H315  
Skin Sens. 1, H317  
STOT SE 3, H336  
Aquatic Chronic 2, H411

##### 2.1.2. Classification according to WHMIS 1988

A: Compressed gases; B5: Flammable aerosols; D2A: Very toxic materials causing other effects; D2B: Toxic materials causing other effects

##### 2.1.3. Australian statement of hazardous nature

Hazardous according to criteria of Safe Work Australia.

##### 2.1.4. Additional information

For full text of R-phrases: see SECTIONS 2.2 and 16.

#### 2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP] / 29 CFR 1910.1200 / WHMIS 2015 / GHS

Hazard pictograms:



Signal word:

Danger

|                                  |          |  |
|----------------------------------|----------|--|
| <b>Hazard statements:</b>        | H222     | Extremely flammable aerosol.   |
|                                  | H229     | Pressurized container: May burst if heated.  |
|                                  | H351     | Suspected of causing cancer by inhalation.   |
|                                  | H372     | Causes damage to lungs through prolonged or repeated inhalation exposure.                      |
|                                  | H315     | Causes skin irritation.  |
|                                  | H317     | May cause an allergic skin reaction.   |
|                                  | H336     | May cause drowsiness or dizziness.   |
|                                  | H411     | Toxic to aquatic life with long lasting effects.   |
| <b>Precautionary statements:</b> | P201     | Obtain special instructions before use.  |
|                                  | P210     | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
|                                  | P211     | Do not spray on an open flame or other ignition source.  |
|                                  | P251     | Do not pierce or burn, even after use.   |
|                                  | P260     | Do not breathe vapours/spray.  |
|                                  | P280     | Wear protective gloves and eye protection.   |
|                                  | P308/313 | IF exposed or concerned: Get medical advice/attention.   |
|                                  | P410/412 | Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.                    |
| <b>Supplemental information:</b> | None     |  |

**2.3. Other hazards**

None

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.2. Mixtures**

| Hazardous Ingredients <sup>1</sup>                                      | % Wt.   | CAS No./<br>EC No.      | REACH<br>Reg. No.    | CLP/GHS Classification   |
|---|---------|-------------------------|----------------------|--|
| Low boiling point naphtha*<br>(Naphtha (petroleum), hydrotreated light) | 30-40   | 64742-49-0<br>265-151-9 | NA                   | Flam. Liq. 2, H225<br>Asp. Tox. 1, H304<br>Skin Irrit. 2, H315<br>STOT SE 3, H336<br>Aquatic Chronic 2, H411 |
| Distillates (petroleum), hydrotreated<br>heavy naphthenic**             | 10-20   | 64742-52-5<br>265-155-0 | NA                   | Asp. Tox. 1, H304  |
| Nickel  | 10-15   | 7440-02-0<br>231-111-4  | 01-211943<br>8727-29 | Carc. 2, H351A<br>STOT RE 1, H372A<br>Skin Sens. 1, H317<br>Aquatic Chronic 3, H412                          |
| Butane***   | 7-13    | 106-97-8                | NA                   | Simple Asphy. (US/Can.)<br>Flam. Liq. 1, H220<br>Liquefied Gas, H280   |
| Propane   | 7-13    | 74-98-6<br>200-827-9    | NA                   | Simple Asphy. (US/Can.)<br>Flam. Liq. 1, H220<br>Liquefied Gas, H280   |
| Aluminum  | 1-5     | 7429-90-5<br>231-072-3  | NA                   | Water-react. 2, H261<br>Flam. Sol. 1, H228   |
| Methanol  | 0.1-0.2 | 67-56-1<br>200-659-6    | NA                   | Flam. Liq. 2, H225<br>Acute Tox. 3, H331, H311, H301<br>STOT SE 1, H370                                      |
| Other ingredients:  |         |                         |                      |  |
| Graphite  | 1-5     | 7782-42-5<br>231-955-3  | NA                   | Not classified   |

\*Contains less than 0.1 % w/w Benzene. \*\*Contains less than 3 % DMSO extract as measured by IP 346. \*\*\*Contains less than 0.1 % w/w 1,3-Butadiene.

For full text of H-statements: see SECTION 16.

<sup>1</sup> Classified according to: \* 29 CFR 1910.1200, 1915, 1916, 1917, Mass. Right-to-Know Law (ch. 40, M.G.L..O. 111F), California Proposition 65  
\* 1272/2008/EC, REACH  
\* WHMIS 2015  
\* Safe Work Australia [NOHSC: 1008 (2004)]

#### SECTION 4: FIRST AID MEASURES

##### 4.1. Description of 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:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Ingestion:** Do not induce vomiting. Contact physician immediately.

##### 4.2. Most important symptoms and effects, both acute and delayed

Irritating to skin. May cause skin sensitization as evidenced by rashes or hives. High vapor concentrations may cause eye and respiratory tract irritation, dizziness, headache and other central nervous system effects.

##### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptoms.

#### SECTION 5: FIRE-FIGHTING MEASURES

##### 5.1. Extinguishing media

**Suitable extinguishing media:** Carbon Dioxide, dry chemical, foam or water fog

**Unsuitable extinguishing media:** High volume water jet

##### 5.2. Special hazards arising from the substance or mixture

Pressurized containers, when heated, are a potential explosive hazard.

##### 5.3. Advice for firefighters

Cool exposed containers with water. Recommend Firefighters wear self-contained breathing apparatus.

**Flammability Classification:** –

**HAZCHEM Emergency Action Code:** 2 **Y**

#### SECTION 6: ACCIDENTAL RELEASE MEASURES

##### 6.1. Personal precautions, protective equipment and emergency procedures

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

##### 6.2. Environmental Precautions

Keep out of sewers, streams and waterways.

##### 6.3. Methods and material for containment and cleaning up

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

##### 6.4. Reference to other sections

Refer to section 13 for disposal advice.

#### SECTION 7: HANDLING AND STORAGE

##### 7.1. Precautions for safe handling

Observe good work practice - avoid eating, drinking and smoking in the work area while using any hydrocarbons. Do not breathe vapours/spray. Utilize exposure controls and personal protection as specified in Section 8. Remove contaminated clothing and wash before reuse. Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No Smoking.

##### 7.2. Conditions for safe storage, including any incompatibilities

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

##### 7.3. Specific end use(s)

Petroleum base. Use on stainless steel, steel, iron, aluminum, copper, brass, titanium, etc. Do not use on oxygen systems. Refer to the product instructions and product data sheet for more detailed application information.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1. Control parameters****Occupational exposure limit values**

| Ingredients               | OSHA PEL <sup>1</sup> |                   | ACGIH TLV <sup>2</sup> |                   | UK WEL <sup>3</sup> |                   | AUSTRALIA ES <sup>4</sup> |                   |
|---------------------------|-----------------------|-------------------|------------------------|-------------------|---------------------|-------------------|---------------------------|-------------------|
|                           | ppm                   | mg/m <sup>3</sup> | ppm                    | mg/m <sup>3</sup> | ppm                 | mg/m <sup>3</sup> | ppm                       | mg/m <sup>3</sup> |
| Low boiling point naphtha | –                     | –                 | 247                    | 1200              | –                   | –                 | –                         | –                 |
| Oil mist, mineral         | –                     | 5                 | –                      | 5                 | –                   | –                 | –                         | 5                 |
| Nickel*                   | –                     | 1                 | (inhal)                | 1.5               | –                   | 0.5               | –                         | 1                 |
| Butane                    | –                     | –                 | 1000                   | –                 | 600                 | 1450              | 800                       | 1900              |
|                           |                       |                   |                        |                   | STEL:<br>750        | 810               |                           |                   |
| Propane                   | 1000                  | 1800              | **                     | –                 | –                   | –                 | **                        | –                 |
| Aluminum*                 | (total)<br>(resp)     | 15<br>5           | (resp)                 | 1                 | (inhal)             | 10                | –                         | 10                |
|                           |                       |                   |                        |                   | (resp)              | 4                 |                           |                   |
| Methanol                  | 200                   | 260               | 200                    | (skin)            | 200                 | 266               | 200                       | 262               |
|                           |                       |                   | STEL:<br>250           |                   | STEL:<br>250        | 333               | (skin)<br>STEL:<br>250    | 328               |
| Graphite                  | (total)<br>(resp)     | 15<br>5           | (resp)                 | 2                 | (resp)              | 4                 | (resp)                    | 3                 |
|                           |                       |                   |                        |                   | (total)             | 10                |                           |                   |

\*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. \*\*Simple asphyxiant.

<sup>1</sup> United States Occupational Health & Safety Administration permissible exposure limits.

<sup>2</sup> American Conference of Governmental Industrial Hygienists threshold limit values.

<sup>3</sup> EH40 Workplace exposure limits, Health & Safety Executive

<sup>4</sup> Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003].

**8.2. Exposure controls****8.2.1. Engineering measures**

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

**8.2.2. Individual protection measures**

**Respiratory protection:** Not normally needed. In case of insufficient ventilation, utilize an approved organic vapor respirator (e.g., EN filter type A/P2).

**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 and face protection:** Safety glasses

**Other:** None

**8.2.3. Environmental exposure controls**

Refer to sections 6 and 12.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES****9.1. Information on basic physical and chemical properties**

|   |                           |                                      |                   |
|---|---------------------------|--------------------------------------|-------------------|
| <b>Physical state</b>                               | liquid                    | <b>Odour</b>                         | petroleum         |
| <b>Colour</b>                                       | gray                      | <b>Odour threshold</b>               | no data available |
| <b>Initial boiling point</b>                        | 121°C (250°F)             | <b>Vapour pressure @ 20°C</b>        | not determined    |
| <b>Melting point</b>                                | not determined            | <b>% Aromatics by weight</b>         | 3.6% maximum      |
| <b>% Volatile (by volume)</b>                       | 76.9%                     | <b>pH</b>                            | not applicable    |
| <b>Flash point</b>                                  | 17°C (63°F), product only | <b>Relative density</b>              | 0.9 kg/l          |
| <b>Method</b>                                       | PM Closed Cup             | <b>Weight per volume</b>             | 7.8 lbs/gal.      |
| <b>Viscosity</b>                                    | 225 cSt @ 40°C            | <b>Coefficient (water/oil)</b>       | < 1               |
| <b>Autoignition temperature</b>                     | not determined            | <b>Vapour density (air=1)</b>        | > 1               |
| <b>Decomposition temperature</b>                    | no data available         | <b>Rate of evaporation (ether=1)</b> | < 1               |
| <b>Upper/lower flammability or explosive limits</b> | not determined            | <b>Solubility in water</b>           | insoluble         |
| <b>Flammability (solid, gas)</b>                    | no data available         | <b>Oxidising properties</b>          | no data available |
| <b>Explosive properties</b>                         | no data available         |                                      |                   |

**9.2. Other information**

None

**SECTION 10: STABILITY AND REACTIVITY****10.1. Reactivity**

No data available for the mixture. Nickel can react vigorously with acids to liberate hydrogen, which can form explosive mixtures with air.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

No dangerous reactions known under conditions of normal use.

**10.4. Conditions to avoid**

Open flames, heat, sparks and red hot surfaces.

**10.5. Incompatible materials**

Strong acids, alkalis and strong oxidizers like liquid Chlorine and concentrated Oxygen.

**10.6. Hazardous decomposition products**

Carbon Monoxide, Carbon Dioxide, aldehydes and other toxic fumes.

**SECTION 11: TOXICOLOGICAL INFORMATION****11.1. Information on toxicological effects**

**Primary route of exposure under normal use:** Inhalation, skin and eye contact. Personnel with pre-existing skin disorders are generally aggravated by exposure.

**Acute toxicity -****Oral:**

| Substance  | Test              | Result                  |
|--|-------------------|-------------------------|
| Low boiling point naphtha                              | LD50, rat         | > 5000 mg/kg            |
| Distillates (petroleum), hydrotreated heavy naphthenic | LD50 rat          | > 5000 mg/kg, estimated |
| Nickel   | LD50, rat         | > 9000 mg/kg            |
| Methanol   | LD50, rat         | 5628 mg/kg              |
| Methanol   | Human lethal dose | 143 mg/kg               |

**Dermal:**

| Substance  | Test         | Result                  |
|--|--------------|-------------------------|
| Low boiling point naphtha                              | LD50, rabbit | > 2000 mg/kg            |
| Distillates (petroleum), hydrotreated heavy naphthenic | LD50, rat    | > 2000 mg/kg, estimated |

**Inhalation:**

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                              | LC50, rat, 4 hours | > 5.61 mg/l             |
| Distillates (petroleum), hydrotreated heavy naphthenic | LC50, rat, 4 hours | > 5 mg/l, estimated     |
| Nickel   | NOAEC, rat, 1 h,   | > 10.2 mg/l             |
| Methanol   | LC50, rat, 4 hours | 64000 ppm (V)           |
| Butane   | LC50, rat, 4 hours | 30957 mg/m <sup>3</sup> |
| Propane  | LC50, rat, 4 hours | 658 mg/l                |

**Skin corrosion/irritation:**

Irritating to skin.

| Substance  | Test                                | Result         |
|--|-------------------------------------|----------------|
| Low boiling point naphtha                              | Skin irritation, (OECD 404), rabbit | Irritating     |
| Distillates (petroleum), hydrotreated heavy naphthenic | Skin irritation, rabbit             | Not irritating |

**Serious eye damage/irritation:**

| Substance  | Test                              | Result         |
|--|-----------------------------------|----------------|
| Low boiling point naphtha                              | Eye irritation (OECD 405), rabbit | Not irritating |
| Distillates (petroleum), hydrotreated heavy naphthenic | Eye irritation, rabbit            | Not irritating |

**Respiratory or skin sensitisation:**

Nickel: May cause sensitisation by skin contact.

| Substance  | Test                                 | Result                        |
|--|--------------------------------------|-------------------------------|
| Low boiling point naphtha                              | Skin sensitization, guinea pig       | Not sensitizing               |
| Distillates (petroleum), hydrotreated heavy naphthenic | Skin sensitization (OECD 406)        | Not sensitizing               |
| Aluminum   | Skin sensitization, guinea pig       | Not sensitizing (read-across) |
| Graphite   | Skin sensitization (OECD 429), mouse | Not sensitizing               |
| Methanol   | Skin sensitization, guinea pig       | Not sensitizing               |

**Germ cell mutagenicity:**

Hazardous ingredients: based on available data, the classification criteria are not met.

**Carcinogenicity:**

The U.S. National Institute for Occupational Safety and Health (NIOSH) concluded that there is no evidence that nickel metal is carcinogenic when ingested. 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) has designated Nickel as possibly carcinogenic to humans (group 2B). The Nickel in this product is not in powder form and should not present a hazard in normal use. To date, there is no evidence that nickel metal causes cancer in humans based on epidemiology data from workers in the nickel producing and nickel consuming industries. A recent animal (rat) inhalation study showed no increased respiratory cancer risk for nickel metal powder indicating that no carcinogen classification is warranted for nickel metal. WARNING: This product contains a chemical(s) known to the State of California to cause cancer.

**Reproductive toxicity:**

Low boiling point naphtha, Aluminum, Distillates (petroleum), hydrotreated heavy naphthenic, Graphite, Methanol: based on available data, the classification criteria are not met. WARNING: This product contains a chemical(s) known to the State of California to cause birth defects or other reproductive harm (Methanol).

|                                |   |
|--------------------------------|---|
| <b>STOT-single exposure:</b>   | Low boiling point naphtha: Causes damage to lungs through prolonged or repeated inhalation exposure. Other ingredients: based on available data, the classification criteria are not met. |
| <b>STOT-repeated exposure:</b> | Nickel: Causes damage to lungs through prolonged or repeated inhalation exposure. Other ingredients: based on available data, the classification criteria are not met.                    |
| <b>Aspiration hazard:</b>      | Based on available data, the classification criteria are not met.   |
| <b>Other information:</b>      | None  |

**SECTION 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.

**12.1. Toxicity**

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

**12.2. Persistence and degradability**

Low boiling point naphtha: inherently biodegradable. Low boiling point naphtha, Petroleum gases, liquefied, sweetened: oxidize by photochemical reactions in air. Distillates (petroleum), hydrotreated heavy naphthenic: inherently biodegradable [31% biodegradation (OECD 301F, 28 days)]. Nickel, Aluminum, Graphite: inorganic substances.

**12.3. Bioaccumulative potential**

Low boiling point naphtha, Octanol/water partition coefficient (log Kow): 2.1 – 5 (estimated). Petroleum gases, liquefied, sweetened, Distillates (petroleum), hydrotreated heavy naphthenic, Nickel, Aluminum, Graphite: not expected to bioaccumulate. Methanol: low potential for bioaccumulation (BCF < 100).

**12.4. Mobility in soil**

Liquid. Insoluble in water. In determining environmental mobility, consider the product's physical and chemical properties (see Section 9). Low boiling point naphtha, Petroleum gases, liquefied, sweetened: will rapidly evaporate to the air if released into the environment.

**12.5. Results of PBT and vPvB assessment**

Not available

**12.6. Other adverse effects**

None known

**SECTION 13: DISPOSAL CONSIDERATIONS****13.1. Waste treatment methods**

Incinerate absorbed material with a properly licensed facility. Incinerate pressurized or sealed containers in an approved facility. Treatment for nickel may need to be provided after incineration and prior to any land disposal. This product is classified as a hazardous waste according to 2008/98/EC. Check local, state and national/federal regulations and comply with the most stringent requirement.

**SECTION 14: TRANSPORT INFORMATION****14.1. UN number**

|                               |        |
|-------------------------------|--------|
| <b>ADR/RID/ADN/IMDG/ICAO:</b> | UN1950 |
| <b>TDG:</b>                   | UN1950 |
| <b>US DOT:</b>                | UN1950 |

**14.2. UN proper shipping name**

|                     |                            |
|---------------------|----------------------------|
| <b>ICAO:</b>        | Aerosols, Flammable        |
| <b>IMDG:</b>        | Aerosols                   |
| <b>ADR/RID/ADN:</b> | Aerosols, <i>flammable</i> |
| <b>TDG:</b>         | Aerosols, <i>flammable</i> |
| <b>US DOT:</b>      | Aerosols, <i>flammable</i> |

**14.3. Transport hazard class(es)**

|                               |     |
|-------------------------------|-----|
| <b>ADR/RID/ADN/IMDG/ICAO:</b> | 2.1 |
| <b>TDG:</b>                   | 2.1 |
| <b>US DOT:</b>                | 2.1 |

**14.4. Packing group**

|                               |                |
|-------------------------------|----------------|
| <b>ADR/RID/ADN/IMDG/ICAO:</b> | NOT APPLICABLE |
| <b>TDG:</b>                   | NOT APPLICABLE |
| <b>US DOT:</b>                | NOT APPLICABLE |

**14.5. Environmental hazards**

NO ENVIRONMENTAL HAZARDS

**14.6. Special precautions for user**

NO SPECIAL PRECAUTIONS FOR USER

**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

NOT APPLICABLE

**14.8. Other information****US DOT:** Shipped as Consumer Commodity ORM-D in packaging having a rated capacity gross weight of 66 lb. or less (49 CFR 173.306(i)). ERG NO. 126**IMDG:** EmS. F-D, S-U, Shipped as Limited Quantity**ADR:** Classification code 5F, Tunnel restriction code (E), Shipped as Limited Quantity**SECTION 15: REGULATORY INFORMATION****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****15.1.1. EU regulations****Authorisations under Title VII:** Not applicable**Restrictions under Title VIII:** None**Other EU regulations:** Directive 92/85/EEC on the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding; Directive 94/33/EC on the protection of young people at work**15.1.2. National regulations****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.**Other national regulations:** National implementations of the EC Directives referred to in section 15.1.1.**15.2. Chemical safety assessment**

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

**SECTION 16: OTHER INFORMATION**

**Abbreviations and acronyms:** ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road  
ATE: Acute Toxicity Estimate  
BCF: Bioconcentration Factor  
CLP: Classification Labelling Packaging Regulation (1272/2008/EC)  
ES: Exposure Standard  
GHS: Globally Harmonized System  
ICAO: International Civil Aviation Organization  
IMDG: International Maritime Dangerous Goods  
LC50: Lethal Concentration to 50 % of a test population  
LD50: Lethal Dose to 50% of a test population  
LOEL: Lowest Observed Effect Level  
N/A: Not Applicable  
NA: Not Available  
NOAEL: No Observed Adverse Effect Level  
NOEL: No Observed Effect Level  
OECD: Organization for Economic Co-operation and Development  
PBT: Persistent, Bioaccumulative and Toxic substance  
(Q)SAR: Quantitative Structure-Activity Relationship  
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (1907/2006/EC)  
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail  
SDS: Safety Data Sheet  
STEL: Short Term Exposure Limit  
STOT RE: Specific Target Organ Toxicity, Repeated Exposure  
STOT SE: Specific Target Organ Toxicity, Single Exposure  
TDG: Transportation of Dangerous Goods (Canada)  
US DOT: United States Department of Transportation  
vPvB: very Persistent and very Bioaccumulative substance  
WEL: Workplace Exposure Limit  
WHMIS: Workplace Hazardous Materials Information System  
Other abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).



**Key literature references and sources for data:** Commission de la santé et de la sécurité du travail (CSST)  
 Chemical Classification and Information Database (CCID)  
 European Chemicals Agency (ECHA) - Information on Chemicals  
 Hazardous Substances Information System (HSIS)  
 National Institute of Technology and Evaluation (NITE)  
 Swedish Chemicals Agency (KEMI)  
 U.S. National Library of Medicine Toxicology Data Network (TOXNET)

**Procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008 [CLP] / GHS:**

| Classification          | Classification procedure |
|-------------------------|--------------------------|
| Flam. Aerosol 1, H222   | On basis of components   |
| STOT RE 1, H372         | Calculation method       |
| Carc. 2, H351           | Calculation method       |
| Skin Irrit. 2, H315     | Calculation method       |
| Skin Sens. 1, H317      | Calculation method       |
| STOT SE 3, H336         | Calculation method       |
| Aquatic Chronic 2, H411 | Calculation method       |

**Relevant H-statements:** EUH066: Repeated exposure may cause skin dryness or cracking.  
 H220: Extremely flammable gas.  
 H225: Highly flammable liquid and vapour.  
 H228: Flammable solid.  
 H261: In contact with water releases flammable gases.  
 H280: Contains gas under pressure; may explode if heated.  
 H301: Toxic if swallowed.  
 H304: May be fatal if swallowed and enters airways.  
 H311: Toxic in contact with skin.  
 H315: Causes skin irritation.  
 H317: May cause an allergic skin reaction.  
 H331: Toxic if inhaled.  
 H336: May cause drowsiness or dizziness.  
 H351A: Suspected of causing cancer by inhalation.  
 H370: Causes damage to organs.  
 H372A: Causes damage to lungs through prolonged or repeated inhalation exposure.  
 H411: Toxic to aquatic life with long lasting effects.  
 H412: Harmful to aquatic life with long lasting effects.

**Hazard pictogram names:** Flame; health hazard; exclamation mark; environment

**Changes to the SDS in this revision:** Sections 2, 3, 4.1, 4.2, 8.1, 8.2.2, 9.1, 11, 15.1.2, 16.

**Revision date:** 26 October 2015

**Further information:** None

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 suitability of the product for the user's particular purpose. The user must make their own determination as to suitability.