



SAFETY DATA SHEET

1. Product and Company Identification

| | |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Product identifier | Easy Seal Direct Inject (4050-08, 4050-07) |
| Other means of identification | Not available |
| Recommended use | Refrigerant leak sealant |
| Recommended restrictions | None known. |
| Manufacturer information | Nu-Calgon 2611 Schuetz Road St. Louis, MO 63043 US Phone: 314-469-7000 / 800-554-5499 Emergency Phone: 1-800-424-9300 (CHEMTREC) |
| Supplier | See above. |

2. Hazards Identification

| | | |
|-----------------------------------|---------------------------------------------------|-------------|
| Physical hazards | Flammable liquids | Category 3 |
| Health hazards | Skin corrosion/irritation | Category 1B |
| | Serious eye damage/eye irritation | Category 1 |
| | Sensitization, skin | Category 1 |
| | Specific target organ toxicity, repeated exposure | Category 2 |
| Environmental hazards | Not classified. | |
| WHMIS 2015 defined hazards | Not classified | |

Label elements



Signal word Danger

Hazard statement Flammable liquid and vapor. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause damage to organs through prolonged or repeated exposure.

Precautionary statement

Prevention Do not breathe mist or vapor. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing should not be allowed out of the workplace. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use non-sparking tools. Take action to prevent static discharges.

Response In case of fire: Use appropriate media to extinguish. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. Specific treatment (see information on this label). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage Store locked up. Store in a well-ventilated place. Keep cool.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS 2015: Health Hazard(s) not otherwise classified (HHNOC) None known

WHMIS 2015: Physical Hazard(s) not otherwise classified (PHNOC) None known

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/Information on Ingredients

Mixture

| Chemical name | Common name and synonyms | CAS number | % |
|----------------------------------------------------|--------------------------|------------|-------|
| Methyl triethoxysilane | | 2031-67-6 | 30-60 |
| 1-Propanamine, 3-(triethoxysilyl)- | | 919-30-2 | 10-30 |
| 2-Butanone, O,O',O''-(methylsilylydyne)trioxime | | 22984-54-9 | 10-30 |

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments US GHS: The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

4. First Aid Measures

| | |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inhalation | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. |
| Skin contact | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER/doctor. Take off contaminated clothing and wash it before reuse. Specific treatment (see information on this label). If skin irritation or rash occurs: Get medical advice/attention. |
| Eye contact | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. |
| Ingestion | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. |
| Most important symptoms/effects, acute and delayed | Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Prolonged exposure may cause chronic effects. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. Symptoms may be delayed. |
| General information | Take off all contaminated clothing immediately. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse. Avoid contact with eyes and skin. Keep out of reach of children. |

5. Fire Fighting Measures

| | |
|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable extinguishing media | Water fog. Foam. Dry chemical powder. Carbon dioxide. |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire-fighting equipment/instructions | In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| General fire hazards | Flammable liquid and vapor. |
| Hazardous combustion products | May include and are not limited to: Oxides of carbon. Oxides of nitrogen. |

6. Accidental Release Measures

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|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Do not discharge into lakes, streams, ponds or public waters.

7. Handling and Storage

Precautions for safe handling

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. All equipment used when handling the product must be grounded. Take precautionary measures against static discharges. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Wear appropriate personal protective equipment. Wash thoroughly after handling. Use good industrial hygiene practices in handling this material. When using do not eat or drink.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Keep out of reach of children.

8. Exposure Controls/Personal Protection

Occupational exposure limits

No exposure limits noted for ingredient(s).

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection**Hand protection**

Impervious gloves. Confirm with reputable supplier first.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. As required by employer code.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.

Thermal hazards

Not applicable.

General hygiene considerations

When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and Chemical Properties

Appearance

Clear

Physical state

Liquid.

Form

Liquid.

Color

Blue

Odor

Amine

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

Not available.

Initial boiling point and boiling range

Not available.

Pour point

Not available.

| | |
|-----------------------------------------------------|-------------------------------|
| Specific gravity | Not available. |
| Partition coefficient (n-octanol/water) | Not available. |
| Flash point | 107.6 °F (42.0 °C) Closed Cup |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not applicable. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | Not available. |
| Flammability limit - upper (%) | Not available. |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | Not available. |
| Vapor density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Explosive properties | Not explosive. |
| Oxidizing properties | Not oxidizing. |

10. Stability and Reactivity

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|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Reactivity | This product may react with strong oxidizing agents. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Chemical stability | Material is stable under normal conditions. |
| Conditions to avoid | Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Do not mix with other chemicals. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous decomposition products | May include and are not limited to: Oxides of carbon. Oxides of nitrogen. |

11. Toxicological Information

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|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Routes of exposure | Eye, Skin contact, Inhalation, Ingestion. |
| Information on likely routes of exposure | |
| Ingestion | Causes digestive tract burns. May cause stomach distress, nausea or vomiting. |
| Inhalation | May cause damage to organs through prolonged or repeated exposure by inhalation. May cause irritation to the respiratory system. |
| Skin contact | Causes severe skin burns. May cause an allergic skin reaction. |
| Eye contact | Causes serious eye damage. |
| Symptoms related to the physical, chemical and toxicological characteristics | Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. |

Information on toxicological effects

Acute toxicity May cause an allergic skin reaction.

| Components | Species | Test Results |
|---------------------------------------------------|----------------|---------------------|
| 1-Propanamine, 3-(triethoxysilyl)- (CAS 919-30-2) | | |
| Acute | | |
| <i>Dermal</i> | | |
| LD50 | Rabbit 4 | ml/kg, ECHA |
| <i>Inhalation</i> | | |
| LC50 | Rat | > 7.4 mg/L, ECHA |

| Components | Species | Test Results |
|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <i>Oral</i> LD50 Ra | t | 1780 mg/kg, SIGMA ALDRICH 4.2 ml/kg, ECHA |
| 2-Butanone, O,O',O''-(methylsilyldiylne)trioxime (CAS 22984-54-9) | | |
| Acute | | |
| <i>Dermal</i> LD50 | Rat > | 2000 mg/kg, ECHA |
| <i>Oral</i> LD50 | Rat | 2650 mg/kg, ECHA, female 2260 mg/kg, ECHA, male |
| Methyl triethoxysilane (CAS 2031-67-6) | | |
| Acute | | |
| <i>Dermal</i> LD50 | Rabbit | > 14240 mg/kg, ECHA, female 11837 mg/kg, ECHA, male |
| <i>Inhalation</i> LC50 | Not available | |
| <i>Oral</i> LD50 | Rat | 10057 mg/kg, ECHA, male 7627 mg/kg, ECHA, female |
| Skin corrosion/irritation | Causes severe skin burns and eye damage. | |
| Exposure minutes | Not available. | |
| Erythema value | Not available. | |
| Oedema value | Not available. | |
| Serious eye damage/eye irritation | Causes serious eye damage. | |
| Corneal opacity value | Not available. | |
| Iris lesion value | Not available. | |
| Conjunctival reddening value | Not available. | |
| Conjunctival oedema value | Not available. | |
| Recover days | Not available. | |
| Respiratory or skin sensitization | | |
| Respiratory sensitization | Not a respiratory sensitizer. | |
| Skin sensitization | May cause an allergic skin reaction. | |
| Mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. | |
| Carcinogenicity | | |
| US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) | Not listed. | |
| Reproductive toxicity | This product is not expected to cause reproductive or developmental effects. | |
| Teratogenicity | Not available. | |
| Specific target organ toxicity - single exposure | Not classified. | |
| Specific target organ toxicity - repeated exposure | May cause damage to organs through prolonged or repeated exposure. | |
| Aspiration hazard | Not an aspiration hazard. | |
| Chronic effects | May cause damage to organs through prolonged or repeated exposure. | |

12. Ecological Information

| | |
|--------------------------------------|------------------------------------------------------------|
| Ecotoxicity | Not available. |
| Persistence and degradability | No data is available on the degradability of this product. |
| Bioaccumulative potential | No data available. |
| Mobility in soil | No data available. |

| | |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mobility in general | Not available. |
| Other adverse effects | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. |

13. Disposal Considerations

| | |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Disposal instructions | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Local disposal regulations | Dispose in accordance with all applicable regulations. |
| Hazardous waste code | The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Waste from residues / unused products | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| Contaminated packaging | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. |

14. Transport Information

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|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Transport of Dangerous Goods (TDG) Proof of Classification | In accordance with Part 2.2.1 (SOR/2014-152) of the Transportation of Dangerous Goods Regulations, we certify that the classification of this product is correct as of the SDS date of issue. |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

U.S. Department of Transportation (DOT)

Basic shipping requirements:

| | |
|-----------------------------|--------------------------------------|
| UN number | UN2920 |
| Proper shipping name | Corrosive liquids, flammable, n.o.s. |
| Technical name | 1-Propanamine, 3-(triethoxysilyl)- |
| Technical name | Methyl triethoxysilane |
| Hazard class | Limited Quantity - US |
| Packing group | II |
| Special provisions | B2, IB2, T11, TP2, TP27 |
| Packaging exceptions | 154 |
| Packaging non bulk | 203 |
| Packaging bulk | 242 |

Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

| | |
|-----------------------------|-------------------------------------|
| UN number | UN2920 |
| Proper shipping name | CORROSIVE LIQUID, FLAMMABLE, N.O.S. |
| Technical name | 1-Propanamine, 3-(triethoxysilyl)- |
| Technical name | Methyl triethoxysilane |
| Hazard class | Limited Quantity - Canada |
| Packing group | II |
| Special provisions | 16 |

IATA/ICAO (Air)

Basic shipping requirements:

| | |
|-----------------------------|-------------------------------------|
| UN number | UN2920 |
| Proper shipping name | Corrosive liquid, flammable, n.o.s. |
| Technical name | 1-Propanamine, 3-(triethoxysilyl)- |
| Technical name | Methyl triethoxysilane |
| Hazard class | Limited Quantity - IATA |
| Packing group | II |

IMDG (Marine Transport)

Basic shipping requirements:

| | |
|-----------------------------|-------------------------------------|
| UN number | UN2920 |
| Proper shipping name | CORROSIVE LIQUID, FLAMMABLE, N.O.S. |
| Technical name | 1-Propanamine, 3-(triethoxysilyl)- |
| Technical name | Methyl triethoxysilane |
| Hazard class | Limited Quantity - IMDG |
| Packing group | II |
| EmS | F-E, S-C |

DOT; IMDG; TDG



IATA



15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

WHMIS 2015 Exemptions Not applicable

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

US state regulations See below

US - Texas Effects Screening Levels: Listed substance

1-Propanamine, 3-(triethoxysilyl)- (CAS 919-30-2) Listed. 2-Butanone, O,O', O''-(methylsilylidyne)trioxime (CAS 22984-54-9) Listed.

Methyl triethoxysilane (CAS 2031-67-6)

Listed.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not regulated.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

Not Listed.

Inventory status

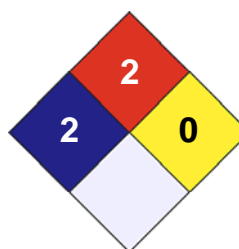
| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|-----------------------------------------------|------------------------|
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

| LEGEND | |
|----------|---|
| Severe | 4 |
| Serious | 3 |
| Moderate | 2 |
| Slight | 1 |
| Minimal | 0 |

| | |
|----------------------------|-----|
| HEALTH | * 2 |
| FLAMMABILITY | 2 |
| PHYSICAL HAZARD | 0 |
| PERSONAL PROTECTION | X |



Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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01

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Prepared by

Nu-Calgon Technical Service Phone: (314) 469-7000

Other information

For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.