1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>Corticotropin Releasing Factor human, rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Number</td>
<td>C3042</td>
</tr>
<tr>
<td>Brand</td>
<td>Sigma</td>
</tr>
<tr>
<td>Product Use</td>
<td>For laboratory research purposes.</td>
</tr>
<tr>
<td>Supplier</td>
<td>Sigma-Aldrich Canada Co.</td>
</tr>
<tr>
<td></td>
<td>2149 Winston Park Drive</td>
</tr>
<tr>
<td></td>
<td>OAKVILLE ON L6H 6J8</td>
</tr>
<tr>
<td></td>
<td>CANADA</td>
</tr>
<tr>
<td>Telephone</td>
<td>+1 9058299500</td>
</tr>
<tr>
<td>Fax</td>
<td>+1 9058299292</td>
</tr>
<tr>
<td>Emergency Phone # (For both supplier</td>
<td>+1-703-527-3887 (CHEMTREC)</td>
</tr>
<tr>
<td>and manufacturer)</td>
<td></td>
</tr>
<tr>
<td>Preparation Information</td>
<td>Sigma-Aldrich Corporation</td>
</tr>
<tr>
<td></td>
<td>Product Safety - Americas Region</td>
</tr>
<tr>
<td></td>
<td>1-800-521-8956</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>Sigma-Aldrich Corporation</td>
</tr>
<tr>
<td></td>
<td>3050 Spruce St.</td>
</tr>
<tr>
<td></td>
<td>St. Louis, Missouri 63103</td>
</tr>
<tr>
<td></td>
<td>USA</td>
</tr>
</tbody>
</table>

2. HAZARDS IDENTIFICATION

Emergency Overview

Target Organs

Endocrine system., Central nervous system, Pituitary., Male reproductive system.

WHMIS Classification

Not WHMIS controlled.

Not a dangerous substance according to GHS.

HMIS Classification

Health hazard: 0
Flammability: 0
Physical hazards: 0

Potential Health Effects

Inhalation     May be harmful if inhaled. May cause respiratory tract irritation.
Skin           May be harmful if absorbed through skin. May cause skin irritation.
Eyes           May cause eye irritation.
Ingestion      May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms      CRH
              CRF

Formula       C_{208}H_{344}N_{60}O_{63}S_{2}
Molecular weight 4,757.45 g/mol

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Concentration</th>
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<tr>
<td>86784-80-7</td>
<td>-</td>
<td>-</td>
<td>&lt;=100%</td>
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</table>
4. FIRST AID MEASURES

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact
Wash off with soap and plenty of water.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water.

5. FIREFIGHTING MEASURES

Conditions of flammability
Not flammable or combustible.

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides

Explosion data - sensitivity to mechanical impact
No data available

Explosion data - sensitivity to static discharge
No data available

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Avoid dust formation. Avoid breathing vapours, mist or gas.

Environmental precautions
Do not let product enter drains.

Methods and materials for containment and cleaning up
Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature -20 °C
Keep in a dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment
Respiratory protection
Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
General industrial hygiene practice.

Specific engineering controls
Use mechanical exhaust or laboratory fume hood to avoid exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form powder
Colour white

Safety data
pH No data available
Melting point/freezing point No data available
Boiling point No data available
Flash point No data available
Ignition temperature No data available
Auto-ignition temperature No data available
Lower explosion limit No data available
Upper explosion limit No data available
Vapour pressure No data available
Density No data available
Water solubility 1 g/l at 20 °C (68 °F)
Partition coefficient: n-octanol/water No data available
Relative vapour density No data available
Odour No data available
Odour Threshold No data available
Evaporation rate No data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
No data available
Conditions to avoid
No data available

Materials to avoid
Strong acids, Strong bases

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides
Other decomposition products - No data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
No data available

Inhalation LC50
No data available

Dermal LD50
No data available

Other information on acute toxicity
No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitisation
No data available

Germ cell mutagenicity
No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Reproductive toxicity
No data available

Teratogenicity
No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)
No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
No data available

Aspiration hazard
No data available

Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion May be harmful if swallowed.
Skin May be harmful if absorbed through skin. May cause skin irritation.
Eyes
May cause eye irritation.

Synergistic effects
No data available

Additional Information
RTECS: GM7925000

12. ECOLOGICAL INFORMATION
Toxicity
No data available

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

PBT and vPvB assessment
No data available

Other adverse effects
No data available

13. DISPOSAL CONSIDERATIONS
Product
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION
DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

15. REGULATORY INFORMATION
WHMIS Classification
Not WHMIS controlled.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16. OTHER INFORMATION
Further information
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