1: Identification

1.1 Product identifier
- Trade name: Busch R 610

1.2 Relevant identified uses of the substance or mixture and uses advised against
- Uses advised against:
  - Application of the substance / the mixture Operating fluid / lubricant for vacuum pumps

1.3 Details of the supplier of the safety data sheet
- Supplier:
  - Busch LLC
  - 516 Viking Drive
  - Virginia Beach, VA 23452
  - Telephone: (757) 463-7800
  - Fax: (757) 463-7407
  - www.buschusa.com
- Information department: See supplier/manufacturer

1.4 Emergency telephone number:
- FOR TRANSPORT EMERGENCY CALL CHEMTREC (800) 424-9300 OR BUSCH LLC (757) 463-7800 FOR NON-EMERGENCIES.

2: Hazard(s) identification

2.1 Classification of the substance or mixture
- Classification The product is not classified according to the CLP regulation.
- Information concerning particular hazards for human and environment:
  A health risk is not expected. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculate. Used oil may contain harmful impurities.

2.2 Label elements
- Hazard pictograms Void
- Signal word Void
- Hazard statements Void
- Classification system:
  - NFPA ratings (scale 0 - 4)
    - Health = 0
    - Fire = 1
    - Reactivity = 0
  - HMIS-ratings (scale 0 - 4)
    - HEALTH 0
    - FIRE 1
    - REACTIVITY 0

(Contd. on page 2)
USA
2.3 Other hazards
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.

3: Composition/information on ingredients

3.2 Chemical characterization: Mixtures
- Description:
  Highly refined mineral oils and additives. The highly refined mineral oil contains < 3% (W/W) DMSO extract, according to IP346.
- Dangerous components: Void
- Additional information:
  - IP 346: Determination of polycyclic aromatics in unused lubricating base oils and asphaltene free petroleum fractions - Dimethyl sulphoxide extraction refractive index method
  - TSCA
    all perfume oils are listed in TSCA by name or as extracts and their physically modified derivatives

4: First-aid measures

4.1 Description of first aid measures
- General information: Personal protection for the First Aider.
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact:
  Remove contaminated clothes and shoes.
  Wash with water and soap.
  If skin irritation continues, consult a doctor.
- After eye contact:
  Rinse opened eye for several minutes under running water.
  If symptoms persist, consult a doctor.
- After swallowing: After swallowing large amounts, call a doctor

4.2 Most important symptoms and effects, both acute and delayed
  Signs and symptoms of acne/folliculate: Blackheads and pimples on exposed skin.
  After swallowing:
  - Nausea
  - Vomiting
  - Diarrhea

4.3 Indication of any immediate medical attention and special treatment needed
  Symptomatic treatment
5: Fire-fighting measures

5.1 Extinguishing media
- Suitable extinguishing agents:
  CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
  In small quantities: sand
  Use fire fighting measures that suit the environment.
- For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture
In case of fire, the following can be released:
  Complex mixture of solid and fluid particles and gases.
  Carbon monoxide (CO)

5.3 Advice for firefighters
- Protective equipment: Wear self-contained respiratory protective device.
- Additional information
  Heating leads to increased pressure and danger of bursting and explosion. Immediately cool neighbouring packages and containers with sprayed water and, if possible, remove them out of the danger zone.
  Collect contaminated fire fighting water separately. It must not enter the sewage system.
  Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Avoid any product contact
Avoid contact with eyes and skin.
Do not breathe aerosol or vapors.
Particular danger of slipping on leaked/spilled product.

6.2 Environmental precautions:
Do not allow product to reach sewage system or any water course.
Do not allow to penetrate the ground/soil.

6.3 Methods and material for containment and cleaning up:
Absorb with non-combustible material like sand, soil, diatomite.
Send for recovery or disposal in suitable receptacles.
Dam up larger quantities and pump into containers.

6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7: Handling and storage

7.1 Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Avoid contact with eyes and skin.
Do not breathe aerosol or vapors.
8: Exposure controls/personal protection

- Additional information about design of technical systems:
  Install appropriate mechanical ventilation/exhaustion
  No further data; see section 7.

- 8.1 Control parameters
  - Components with limit values that require monitoring at the workplace:
    The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- 8.2 Exposure controls
  - Personal protective equipment:
  - General protective and hygienic measures:
    The usual precautionary measures for handling chemicals should be followed.
    Keep away from foodstuffs, beverages and feed.
    Before breaks and at the end of work, thoroughly wash hands with water and soap, then rub-in skin protecting cream.
    Immediately remove soiled, soaked clothing and use again only after washing.
  - Breathing equipment:
    A respiratory protection program that meets OSHA’s 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator’s use.
    Always use a NIOSH or European Standard EN 149 approved respirator when necessary.
    Under normal conditions of use not required.
    In case of unintentional release of substance, exceeding the occupational exposure limit value:
    Suitable respiratory protective device recommended.
  - Protection of hands:
    Chemical resistant gloves (EN 374)
    The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
    Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
  - Material of gloves
    Nitrile rubber, NBR
9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information
Appearance:
- Form: Fluid
- Color: Yellowish
- Odor: Light
- Odour threshold: Not determined.
- pH-value: Not applicable

Change in condition
- Melting point/Melting range: < -15 °C (< 5 °F)
- Boiling point/Boiling range: > 280 °C (> 536 °F) (estimated)
- Pouring point: -9 °C (16 °F)
- Flash point: 260 °C (500 °F) (open cup)

Flammability (solid, gaseous): Not applicable.

Auto igniting:
- Autoignition temperature: 430 °C

Ignition temperature: Not determined

Decomposition temperature: Not determined

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:
- Lower: 1 Vol %
- Upper: 10 Vol % (based on mineral oil)

Oxidizing properties: Not determined
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10: Stability and reactivity

- Possibility of hazardous reactions: No further relevant information available.
- 10.1 Reactivity No further relevant information available.
- 10.2 Chemical stability
  - Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.
- 10.3 Possibility of hazardous reactions Reacts with strong oxidizing agents.
- 10.4 Conditions to avoid
  - Heat
- 10.5 Incompatible materials: Strong oxidants
- 10.6 Hazardous decomposition products: No hazardous decomposition products if instructions for storage and handling are followed

11: Toxicological information

- 11.1 Information on toxicological effects
  - Acute toxicity:
    - LD/LC50 values that are relevant for classification:
      - Oral LD₅₀ > 5000 mg/kg (rat) estimated
      - Dermal LD₅₀ > 5000 mg/kg (rabbit) estimated
  - Primary irritant effect:
    - on the skin: Light irritation of the skin is possible
    - on the eye: Light irritation possible.
12: Ecological information

12.1 Toxicity
· Aquatic toxicity:
Presently there are no ecotoxicological values available.
Poorly soluble mixture. May cause physical fouling of aquatic organisms.
Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l (to aquatic organisms) (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract). Mineral oil is not expected to cause any chronic effects to aquatic organisms at concentrations less than 1 mg/l.

12.2 Persistence and degradability
The product is not easily, but potentially biodegradable.
Some of the compounds could be be persistent in the environment.
· Bioaccumulative potential $\log P (o/w) > 4$ - Considerable bioaccumulation is to be expected.
12.4 Mobility in soil
Liquid under most environmental conditions. Floats on water. If it enters soil, it will adsorb to soil particles and will not be mobile.
· Additional ecological information:
· General notes:
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.

12.5 Results of PBT and vPvB assessment
· PBT: Not applicable.
· vPvB: Not applicable.
12.6 Other adverse effects
Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

13: Disposal considerations

13.1 Waste treatment methods
Recommendation:
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
The used respectively the unused product should be recycled if possible.
Disposal according to instructions of local authorities

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14: Transport information

14.1 UN-Number
DOT, ADR, ADN, IMDG, IATA Void

14.2 UN proper shipping name
DOT, ADR, ADN, IMDG, IATA Void

14.3 Transport hazard class(es)
DOT, ADR, ADN, IMDG, IATA
Class Void

14.4 Packing group
DOT, ADR, IMDG, IATA Void

14.5 Environmental hazards:
Marine pollutant: No

14.6 Special precautions for user
Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.
For Bulk transport: follow the rules of MARPOL Annex 1

Transport/Additional information:
Not dangerous according to the above regulations.

UN "Model Regulation": -
15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - Sara:
  - Section 355 (extremely hazardous substances): None of the ingredients is listed.
  - Section 313 (Specific toxic chemical listings): None of the ingredients is listed.
  - TSCA (Toxic Substances Control Act): All ingredients are listed.
  - Carcinogenic categories
  - EPA (Environmental Protection Agency) void
  - IARC (International Agency for Research on Cancer) void
  - TLV (Threshold Limit Value established by ACGIH) void
  - MAK (German Maximum Workplace Concentration) void
  - NIOSH-Ca (National Institute for Occupational Safety and Health) void
  - OSHA-Ca (Occupational Safety & Health Administration) void
  - Regulation or reporting requirements USA
  - Prop. 65 - Cancer
    - not listed

16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Replaces the version dated:** 10/10/10

- **Abbreviations and acronyms:**
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
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NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

USA