

Safety Data Sheet (SDS)

RC-001

1. Product Identification

- **Synonyms:** Shock absorbers; Gas charged shock absorbers; MacPherson struts; MacPherson cartridges; Monotube shock absorbers
- **CAS No.:** N/A
- **Molecular Weight:** N/A
- **Chemical Formula:** N/A
- **Product Codes:** All pressurized shocks & struts

2. Hazards Identification

- **GHS-US Classification:**
- **Classification of intact product:** Gasses under pressure – compressed gas
- **Classification of hydraulic fluid:** Acute toxicity – 5
Mild skin irritation – 3
Eye irritation – 2B
- **Signal word (GHS-US):** Warning
- **Hazard statements (GHS-US):** H280-Contains gas under pressure; may explode if heated
H303-May be harmful if swallowed
H316-Causes mild skin irritation
H320-Causes eye irritation
- **Precautionary statements (GHS-US)**
if exposed to hydraulic fluid: P264 - Wash face, hands and any exposed skin thoroughly after handling.

3. Composition/Information on Ingredients

| Ingredient | Formula | CAS No. | Mass % | ACGIH (TLV) (mg/M ³) | OSHA (PEL) (mg/M ³) |
|---|----------------|--|--|----------------------------------|---------------------------------|
| Steel | N/A | not est. | 60-85% | 5* | 5* |
| Hydraulic fluid: Petroleum distillates (one or more of the following): solvent dewaxed light paraffinic solvent refined light paraffinic Paraffinic medium oil Naphtenic light oil 1-Decene, dimmer, hydrogenated White mineral oil Lubricating oils, petroleum, C15-30, hydrotreated neutral oil-based Phosphorodithioic acid, O,O-di-C14-alkyl esters, zinc salts Oleic acid Tributylamine | N/A | 64742-56-9 64741-89-5 64741-50-0 64741-50-0 686649-11-6 8042-47-5 72623-86-0 68649-42-3 112-80-1 102-82-9 | 5-20% 0-6% < 0.5 < 0.5 < 0.5 < 0.5 < 0.5 | 5 | 5 |
| Sintered iron | Fe | 7439-89-6 | 0-10% | 5 | 5 |
| Natural rubber | NR | not est. | 0-10% | not est. | not est. |
| Nitrile rubber | NBR | not est. | 0-5% | not est. | not est. |
| Nylon | PA66 | not est. | 0-5% | not est. | not est. |
| Pressurized nitrogen gas | N ₂ | 7727-37-9 | < 1% | not est. | not est. |
| Chrome plating | Cr | 7440-47-3 | < 1% | 0.5 | 1 |
| Teflon | PTFE | not est. | < 1% | not est. | not est. |

Safety Data Sheet (SDS) RC-001

| | | | | | |
|--|-----|------------|------|---|---|
| Grease (hydrotreated heavy paraffinic) | N/A | 64742-54-7 | < 1% | 5 | 5 |
|--|-----|------------|------|---|---|

* = Exposure limits are based on iron-containing welding fumes.

4. First Aid Measures

- **Inhalation:** N/A
- **Ingestion:** Harmful if liquid portion of shock or strut is swallowed. Do not induce vomiting. Seek medical assistance.
- **Skin Contact:** If liquid portion of shock or strut comes into contact with clothing or skin, wash with soap and water. Remove contaminated clothing.
- **Eye Contact:** Flush with water for 15 minutes. If irritation remains consult a physician.

5. Fire Fighting Measures

- **Fire:** Remove product from flames if safe to do so. Otherwise stay clear until professional help arrives.
- **Explosion:** Contents under pressure.
- **Fire Extinguishing Media:** Dry Chemical or CO₂
- **Special Information:** Store away from high heat sources [$> 100\text{ }^{\circ}\text{C}$ ($212\text{ }^{\circ}\text{F}$)]

6. Accidental Release Measures

- Shocks and Struts, based on their individualistic nature, do not pose a release hazard on a large scale. Should a shock or strut leak fluid, clean and dispose of the fluid in accordance with local oil disposal requirements. Shock or strut (metal housing) may be disposed of following local general waste disposal guidelines.

7. Handling and Storage

- Contents may be under pressure. Store away from direct flame or heat sources [$> 100\text{ }^{\circ}\text{C}$ ($212\text{ }^{\circ}\text{F}$)].

8. Exposure Controls/Personal Protection

- **Airborne Exposure Limits:** None
- **Ventilation System:** N/A
- **Personal Respirators (NIOSH Approved):** N/A
- **Skin Protection:** N/A
- **Eye Protection:** N/A

9. Physical and Chemical Properties

- **Appearance:** Metal Shock or Strut
- **Odor:** None
- **Solubility:** N/A
- **Specific Gravity:** N/A
- **PH:** N/A
- **% Volatiles by volume @21 °C (70 °F):** N/A
- **Boiling Point:** N/A
- **Melting Point:** N/A
- **Vapor Density (Air = 1):** N/A
- **Vapor Pressure (mm Hg):** N/A
- **Evaporation Rate (BuAc = 1):** N/A

10. Stability and Reactivity

- **Stability:** Stable
- **Hazardous Decomposition Products:** N/A
- **Hazardous Polymerization:** N/A
- **Incompatibilities:** N/A
- **Conditions to Avoid:** N/A

11. Toxicological Information

- **Ingredient:** No constituents are known, suspected, or anticipated human carcinogens. Chromium has been irreversibly bound via plating process and presents no hazard.

Safety Data Sheet (SDS)
RC-001

GAS CHARGED SHOCKS AND STRUTS

12. Ecological Information

- **Environmental Fate:** N/D
- **Environmental Toxicity:** Same as any very small quantity (10ml) of oil.

13. Disposal Considerations

- Shocks and struts, based on their individualistic nature, do not pose a release hazard on a large scale.
- To avoid injury with pressurized shock absorbers (piston rod extends by itself after being compressed), drill or cut in a controlled fashion to relieve gas pressure prior to opening.
- Shock fluid should be disposed in accordance with local oil disposal requirements. Shock or strut (metal housing) may be disposed of following local general waste disposal guidelines.

14. Transport Information

- Non gas charged shocks and struts are not subject to transportation restrictions.
- Gas charged shocks and struts meet the following exceptions (special provisions) from hazardous materials regulations and as such are not regulated for transport by ground, rail, air, or sea
 - 49 CFR §173.306(f)(4)
 - ICAO / IATA – special provision A114
 - IMO/ IMDG – special provision 283
 - The following classification is provided for convenience only:
 - **US DOT:** 49 CFR §172.101
 - **Proper Shipping Name:** Accumulators Pressurized Pneumatic or Hydraulic
 - **Hazard Class:** 2.2
 - **UN:** UN3164
 - **Packing Group:** 208

15. Regulatory Information

- **Ingredient:** N/A
- **WHMIS (Canada): Class A; compressed gas**
- **SARA Title III Classification:** Sudden Release of Pressure
- **TSCA:** N/A
- **EC:** N/A
- **Japan:** N/A
- **Australia:** N/A
- **Chemical Weapons Convention:** N/A

16. Other Information

- **HMIS Classification**
 - **Health Rating (intact product):** 0 Health Rating (for hydraulic fluid): 1
 - **Flammability Rating (intact product):** 0 Flammability Rating (for hydraulic fluid): 1
 - **Physical Hazard (intact product):** 1 Physical Hazard (for hydraulic fluid): 0
 - **Personal Protection Equipment:** N/A
- **Label Hazard Warning:** None
- **Label Precautions:** None
- **Label First Aid:** None
- **Revision Information:** 10 Feb 2015 (rev. E); Original release 03 Dec 2009 (was #ARP002 28 Jun 2000)
- **Disclaimer:**