

SAFETY DATA SHEET

Black Repair Cement



SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : Black Repair Cement
Product code : 16-325; 16-326; 16-327; 98-853

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

Product use : Adhesive.

1.3 Details of the supplier of the safety data sheet

Patch Rubber Company
 100 Patch Rubber Road
 Weldon, NC 27890 USA
 T: (252) 536-2574

e-mail address of person responsible for this SDS : roa-coa@patchrubber.com

Only representative

Joachim C. Schmidtke
 Ramboll Deutschland GmbH
 Munich Germany
 Telephone: +49(0)89 978 970 100

1.4 Emergency telephone number

Supplier

Telephone number : CHEMTREC: United States and Canada :1-800-424-9300
 CHEMTREC: Outside United States and Canada: 001-703-527-3887

France Emergency telephone number (with hours of operation): ORFILA Number: + 33 (0) 1 45 42 59 59 (24 hours per day/7 days per week)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flam. Liq. 2, H225
 Skin Irrit. 2, H315
 Eye Irrit. 2, H319
 STOT SE 3, H336
 Asp. Tox. 1, H304
 Aquatic Acute 1, H400
 Aquatic Chronic 1, H410

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown toxicity : 64.6 percent of the mixture consists of component(s) of unknown toxicity

Ingredients of unknown ecotoxicity : Contains 7.6 % of components with unknown hazards to the aquatic environment

Classification according to Directive 1999/45/EC [DPD]

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : F; R11
 Xi; R38
 R67
 N; R50/53

See Section 16 for the full text of the R phrases or H statements declared above.

SECTION 2: Hazards identification

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :



Signal word :

Danger

Hazard statements :

- H225 - Highly flammable liquid and vapour.
- H319 - Causes serious eye irritation.
- H315 - Causes skin irritation.
- H304 - May be fatal if swallowed and enters airways.
- H336 - May cause drowsiness or dizziness.
- H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention :

- P280 - Wear protective gloves: > 8 hours (breakthrough time): neoprene, butyl rubber, nitrile rubber. Wear eye or face protection.
- P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P273 - Avoid release to the environment.

Response :

- P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
- P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Storage :

Not applicable.

Disposal :

Not applicable.

Hazardous ingredients :

- Naphtha (petroleum), hydrotreated light heptane
- 3-Methylhexane

Supplemental label elements :

Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles :

Not applicable.

2.3 Other hazards

Other hazards which do not result in classification :

None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures :

Mixture

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	

SECTION 3: Composition/information on ingredients

Naphtha (petroleum), hydrotreated light	EC: 265-151-9 CAS: 64742-49-0	≥60 - <100	Carc. Cat. 2; R45 Muta. Cat. 2; R46 Xn; R65	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1]
heptane	EC: 205-563-8 CAS: 142-82-5 Index: 601-008-00-2	≥25 - <50	F; R11 Xn; R65 Xi; R38 R67 N; R50/53	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1][2]
3-Methylhexane	EC: 209-643-3 CAS: 589-34-4 Index: 601-008-00-2	≥25 - <50	F; R11 Xn; R65 Xi; R38 R67 N; R50/53	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1][2]
Methylcyclohexane	EC: 203-624-3 CAS: 108-87-2 Index: 601-018-00-7	≥10 - <25	F; R11 Xn; R65 Xi; R38 R67 N; R51/53	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	[1][2]
2-Methylhexane	EC: 209-730-6 CAS: 591-76-4 Index: 601-008-00-2	≥10 - <25	F; R11 Xn; R65 Xi; R38 R67 N; R50/53	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1][2]
3-Ethylpentane	EC: 210-529-0 CAS: 617-78-7 Index: 601-008-00-2	≥5 - <10	F; R11 Xn; R65 Xi; R38 R67 N; R50/53	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1][2]
2,3-dimethylpentane	EC: 209-280-0 CAS: 565-59-3 Index: 601-008-00-2	≥5 - <10	F; R11 Xn; R65 Xi; R38 R67 N; R50/53	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1][2]

SECTION 3: Composition/information on ingredients

carbon black, respirable other than powder	EC: 215-609-9 CAS: 1333-86-4	≥1 - <3	Not classified.	H410 Aquatic Chronic 3, H412	[1]
sulfur	EC: 231-722-6 CAS: 7704-34-9 Index: 016-094-00-1	≥1 - <3	Xi; R38	Skin Irrit. 2, H315 Eye Irrit. 2, H319	[1]
Zinc oxide	EC: 215-222-5 CAS: 1314-13-2 Index: 030-013-00-7	≥1 - <3	N; R50/53	Eye Irrit. 2, H319 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	[1]
Isopropyl alcohol	EC: 200-661-7 CAS: 67-63-0 Index: 603-117-00-0	≥1 - <3	F; R11 Xi; R36 R67 See Section 16 for the full text of the R-phrases declared above.	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 See Section 16 for the full text of the H statements declared above.	[1][2]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

SECTION 4: First aid measures

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.
Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
Skin contact : Causes skin irritation.
Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
 pain or irritation
 watering
 redness

Inhalation : Adverse symptoms may include the following:
 nausea or vomiting
 headache
 drowsiness/fatigue
 dizziness/vertigo
 unconsciousness

Skin contact : Adverse symptoms may include the following:
 irritation
 redness

Ingestion : Adverse symptoms may include the following:
 nausea or vomiting

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Aspiration hazard if swallowed. Can enter lungs and cause damage. high concentrations: heartbeat irregularity (arrhythmia)

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire. Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Highly flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. Flammable or combustible, may be ignited by heat, sparks or flames. Hot containers may explode. Vapours may form explosive mixtures with air.

SECTION 5: Firefighting measures

Hazardous thermal decomposition products : Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 sulfur oxides
 metal oxide/oxide/smoke
 soot
 fumes or vapour

5.3 Advice for firefighters

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Dyke area of fire to prevent runoff.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. For large spills, dyke spilt material or otherwise contain it to ensure runoff does not reach a waterway.

6.4 Reference to other sections

: See Section 1 for emergency contact information.
 See Section 8 for information on appropriate personal protective equipment.
 See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures

: Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container. Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Advice on general occupational hygiene

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Seveso Directive

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c: Flammable liquids 2 and 3 not falling under P5a or P5b	5000	50000
E1: Hazardous to the aquatic environment - Acute 1 or Chronic 1	100	200
C7b: Highly flammable (R11)	5000	50000
C9i: Very toxic for the environment	100	200

Storage class (TRGS 510) : 3

7.3 Specific end use(s)

Section 7. Handling and storage: The information in this section contains generic advice and guidance.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
heptane	<p>TRGS900 AGW (Germany, 12/2014). PEAK: 2100 mg/m³ 15 minutes. TWA: 500 ppm 8 hours. PEAK: 500 ppm 15 minutes. TWA: 1500 mg/m³ 8 hours.</p> <p>EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 500 ppm 8 hours.</p> <p>Ministry of Labour and Social Policy (Italy, 10/2013). 8 hours: 500 ppm 8 hours. 8 hours: 2085 mg/m³ 8 hours.</p>

SECTION 8: Exposure controls/personal protection

	<p>Ministère du travail (France, 7/2012). Notes: Labour Act , Art 4412-149 (Regulatory binding exposure limits) TWA: 400 ppm 8 hours. TWA: 1668 mg/m³ 8 hours. STEL: 500 ppm 15 minutes. STEL: 2085 mg/m³ 15 minutes.</p>
3-Methylhexane	<p>TRGS900 AGW (Germany, 12/2014). PEAK: 2100 mg/m³ 15 minutes. TWA: 500 ppm 8 hours. PEAK: 500 ppm 15 minutes. TWA: 1500 mg/m³ 8 hours.</p>
Methylcyclohexane	<p>TRGS900 AGW (Germany, 12/2014). TWA: 810 mg/m³ 8 hours. PEAK: 1620 mg/m³ 15 minutes. TWA: 200 ppm 8 hours. PEAK: 400 ppm 15 minutes.</p> <p>Ministère du travail (France, 7/2012). Notes: Ministry of Labour (Brochure INRS Ed 984, July 2012). Indicative exposure limits TWA: 400 ppm 8 hours. TWA: 1600 mg/m³ 8 hours.</p>
2-Methylhexane	<p>TRGS900 AGW (Germany, 12/2014). PEAK: 2100 mg/m³ 15 minutes. TWA: 500 ppm 8 hours. PEAK: 500 ppm 15 minutes. TWA: 1500 mg/m³ 8 hours.</p>
3-Ethylpentane	<p>TRGS900 AGW (Germany, 12/2014). PEAK: 2100 mg/m³ 15 minutes. TWA: 500 ppm 8 hours. PEAK: 500 ppm 15 minutes. TWA: 1500 mg/m³ 8 hours.</p>
2,3-dimethylpentane	<p>TRGS900 AGW (Germany, 12/2014). PEAK: 2100 mg/m³ 15 minutes. TWA: 500 ppm 8 hours. PEAK: 500 ppm 15 minutes. TWA: 1500 mg/m³ 8 hours.</p>
Isopropyl alcohol	<p>TRGS900 AGW (Germany, 12/2014). TWA: 500 mg/m³ 8 hours. PEAK: 1000 mg/m³ 15 minutes. TWA: 200 ppm 8 hours. PEAK: 400 ppm 15 minutes..</p> <p>Ministère du travail (France, 7/2012). Notes: Ministry of Labour (Brochure INRS Ed 984, July 2012). Indicative exposure limits STEL: 400 ppm 15 minutes.</p> <p>EH40/2005 WELs (United Kingdom (UK), 12/2011). STEL: 1250 mg/m³ 15 minutes. STEL: 500 ppm 15 minutes. TWA: 999 mg/m³ 8 hours.</p>
carbon black, respirable other than powder	<p>Ministère du travail (France, 7/2012). Notes: Ministry of Labour (Brochure INRS Ed 984, July 2012). Indicative exposure limits TWA: 3.5 mg/m³ 8 hours.</p> <p>EH40/2005 WELs (United Kingdom (UK), 12/2011). STEL: 7 mg/m³ 15 minutes. TWA: 3.5 mg/m³ 8 hours.</p>

SECTION 8: Exposure controls/personal protection

Zinc oxide

Ministère du travail (France, 7/2012). Notes: Ministry of Labour (Brochure INRS Ed 984, July 2012). Indicative exposure limits
 TWA: 10 mg/m³ 8 hours. Form: Dust
 TWA: 5 mg/m³ 8 hours. Form: Fume

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

> 8 hours (breakthrough time): neoprene, butyl rubber, nitrile rubber

SECTION 8: Exposure controls/personal protection

- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Recommended: Particle filter device (DIN EN 143), Filter type: P2
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : Liquid.
- Colour** : Black.
- Odour** : Hydrocarbon.
- Odour threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : 93.333°C
- Flash point** : Closed cup: -9.4444°C
- Evaporation rate** : 4.2 (butyl acetate = 1)
- Flammability (solid, gas)** : Not available.
- Upper/lower flammability or explosive limits** : Lower: 1%
Upper: 6.7%
- Vapour pressure** : 5.3 kPa [room temperature]
- Vapour density** : 3.5 [Air = 1]
- Relative density** : 0.73 [Water = 1]
- Density** : Not available.
- Solubility(ies)** : Insoluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/ water** : Not available.
- Auto-ignition temperature** : 203.8°C
- Decomposition temperature** : Not available.
- Viscosity** : Not available.
- Explosive properties** : Not available.
- Oxidising properties** : Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : The product is stable.
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
Under normal conditions of storage and use, hazardous polymerisation will not occur.
- 10.4 Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas.
- 10.5 Incompatible materials** : Reactive or incompatible with the following materials:
oxidizing materials
strong acids
- 10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	Remarks
heptane	LC50 Inhalation Gas.	Rat	48000 ppm	4 hours	-
	LC50 Inhalation Vapour	Rat	103 g/m ³	4 hours	-
Methylcyclohexane	LD50 Oral	Rat	>3200 mg/kg	-	-
carbon black, respirable other than powder	LD50 Dermal	Rabbit	>3 g/kg	-	-
	LD50 Oral	Rat	>15400 mg/kg	-	-
Isopropyl alcohol	LD50 Dermal	Rabbit	12800 mg/kg	-	-
	LD50 Oral	Rat	5000 mg/kg	-	-

Conclusion/Summary : Based on available data, the classification criteria are not met.

Acute toxicity estimates

Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation	Remarks
heptane	Skin - Moderate irritant	Rabbit	-	24 hours	-	-
3-Methylhexane	Skin - Moderate irritant	Rabbit	-	-	-	-
Methylcyclohexane	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-	-
	Skin - Moderate irritant	Rabbit	-	-	-	-
2-Methylhexane	Skin - Moderate	Rabbit	-	-	-	-

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	irritant					
3-Ethylpentane	Skin - Moderate irritant	Rabbit	-	-	-	-
2,3-dimethylpentane	Skin - Moderate irritant	Rabbit	-	-	-	-
sulfur	Skin - Erythema/ Eschar	Rabbit	3	24 hours	-	-
Zinc oxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-	-
Isopropyl alcohol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-	-
	Eyes - Severe irritant	Rabbit	-	100 milligrams	-	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-	-

Conclusion/Summary

- Skin** : Causes skin irritation.
- Eyes** : Causes serious eye damage.

Sensitisation

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Carbon black is classified by the IARC as a Group 2B carcinogen (possibly carcinogenic to humans). Carbon black is inextricably bound in this mixture and therefore does not present a carcinogenic risk..

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
heptane	Category 3	Not applicable.	Narcotic effects
3-Methylhexane	Category 3	Not applicable.	Narcotic effects
Methylcyclohexane	Category 3	Not applicable.	Narcotic effects
2-Methylhexane	Category 3	Not applicable.	Narcotic effects
3-Ethylpentane	Category 3	Not applicable.	Narcotic effects
2,3-dimethylpentane	Category 3	Not applicable.	Narcotic effects
Isopropyl alcohol	Category 3	Not applicable.	Narcotic effects

SECTION 11: Toxicological information

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Product/ingredient name	Result
heptane	ASPIRATION HAZARD - Category 1
3-Methylhexane	ASPIRATION HAZARD - Category 1
Methylcyclohexane	ASPIRATION HAZARD - Category 1
2-Methylhexane	ASPIRATION HAZARD - Category 1
3-Ethylpentane	ASPIRATION HAZARD - Category 1
2,3-dimethylpentane	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : Causes skin irritation.
- Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : Adverse symptoms may include the following:
nausea or vomiting

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure	Remarks
Not available.					

Conclusion/Summary : Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure	Remarks
heptane	Acute LC50 375000 µg/l Fresh water	Fish - Oreochromis mossambicus	96 hours	-
Methylcyclohexane	Acute LC50 5800 µg/l Marine water	Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)	96 hours	-
carbon black, respirable other than powder	Acute EC50 37.563 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours	-
sulfur	Acute LC50 >100 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours	-
Zinc oxide	Acute IC50 1.85 mg/l Marine water	Algae - Skeletonema costatum	96 hours	-
	Acute IC50 46 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours	-
	Acute LC50 98 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours	-
Isopropyl alcohol	Acute LC50 1.1 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours	-
	Acute LC50 1400000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours	-
	Acute LC50 4200 mg/l Fresh water	Fish - Rasbora heteromorpha	96 hours	-

Conclusion/Summary : Very toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

SECTION 12: Ecological information

Product/ingredient name	LogP _{ow}	BCF	Potential
heptane	4.66	552	high
Methylcyclohexane	3.61	112	low
Zinc oxide	-	60960	high
Isopropyl alcohol	0.05	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance.

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste. The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Packaging





Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN1133	UN1133	UN1133	UN1133
14.2 UN proper shipping name	ADHESIVES	ADHESIVES	ADHESIVES	Adhesives
14.3 Transport hazard class(es)	3	3	3	3

SECTION 14: Transport information

Transport Label				
14.4 Packing group	II	II	II	II
14.5 Environmental hazards	Yes.	Yes.	Marine Pollutant: Yes	No.
Additional information	<p>The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.</p> <p>Hazard identification number 33</p> <p>Limited quantity 5 L</p> <p>Special provisions 640C</p> <p>Tunnel code (D/E)</p>	<p>The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.</p> <p>Special provisions 640C</p>	<p>The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.</p> <p>Emergency schedules (EmS) F-E, S-D</p>	<p>The environmentally hazardous substance mark may appear if required by other transportation regulations.</p> <p>Passenger and Cargo Aircraft Quantity limitation: 5 L Packaging instructions: 353</p> <p>Cargo Aircraft Only Quantity limitation: 60 L Packaging instructions: 364</p> <p>Limited Quantities - Passenger Aircraft Quantity limitation: 1 L Packaging instructions: Y341</p> <p>Special provisions A3</p>

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory : Not determined.

Seveso Directive

SECTION 15: Regulatory information

This product is controlled under the Seveso Directive.

Danger criteria

Category

P5c: Flammable liquids 2 and 3 not falling under P5a or P5b
 E1: Hazardous to the aquatic environment - Acute 1 or Chronic 1
 C7b: Highly flammable (R11)
 C9i: Very toxic for the environment

German National regulations

Storage class (TRGS 510) : 3
Hazardous incident ordinance : Applicable. Category: 9a Dangerous for the environment.
Hazard class for water : 3 Appendix No. 4
Technical instruction on air quality control : TA-Luft Number 5.2.5: 18.1-100%.

France national regulations

Social Security Code, Articles L 461-1 to L 461-7 : heptane RG 84
 3-methylhexane RG 84
 2-methylhexane RG 84
 3-ethylpentane RG 84
 2,3-dimethylpentane RG 84
 : Act of July 11, 1977 determining the list of activities which require reinforced medical surveillance: not applicable

Italy national regulations

D.Lg. 152/06 : Not determined

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia : All components are listed or exempted.
Canada : All components are listed or exempted.
China : All components are listed or exempted.
Japan : Not determined.
Malaysia : Not determined.
New Zealand : All components are listed or exempted.
Philippines : All components are listed or exempted.
Republic of Korea : All components are listed or exempted.
Taiwan : All components are listed or exempted.
United States : All components are listed or exempted.

15.2 Chemical Safety Assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DMEL = Derived Minimal Effect Level
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number
 vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	On basis of test data Calculation method Calculation method Calculation method Expert judgment Calculation method Calculation method

Full text of abbreviated H statements :	H225 H304 H315 H319 H336 H400 H410 H411 H412	Highly flammable liquid and vapour. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects. Toxic to aquatic life with long lasting effects. Harmful to aquatic life with long lasting effects.
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Full text of classifications [CLP/GHS] :	Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Aquatic Chronic 2, H411 Aquatic Chronic 3, H412 Asp. Tox. 1, H304 Eye Irrit. 2, H319 Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336	ACUTE AQUATIC HAZARD - Category 1 LONG-TERM AQUATIC HAZARD - Category 1 LONG-TERM AQUATIC HAZARD - Category 2 LONG-TERM AQUATIC HAZARD - Category 3 ASPIRATION HAZARD - Category 1 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 FLAMMABLE LIQUIDS - Category 2 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
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Full text of abbreviated R phrases : R11- Highly flammable.
 R65- Harmful: may cause lung damage if swallowed.
 R36- Irritating to eyes.
 R38- Irritating to skin.
 R67- Vapours may cause drowsiness and dizziness.
 R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of classifications [DSD/DPD] : F - Highly flammable
 Xn - Harmful
 Xi - Irritant
 N - Dangerous for the environment

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Notice to reader

SECTION 16: Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.