1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING 1.1 **Product identifiers** p - Toluenesulfonyl azide solution Product name 1.2 Relevant identified uses of the substance or mixture and uses advised against Identified uses Laboratory chemicals, Manufacture of substances 2. HAZARDS IDENTIFICATION 2.1 Classification of the substance or mixture Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP] Flammable liquids (Category 2) Acute toxicity, Oral (Category 2) Skin irritation (Category 2) Reproductive toxicity (Category 2) Specific target organ toxicity - single exposure (Category 3) Specific target organ toxicity - repeated exposure (Category 2) Aspiration hazard (Category 1) Classification according to EU Directives 67/548/EEC or 1999/45/EC Highly flammable. Very toxic if swallowed. Harmful: may cause lung damage if swallowed. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of harm to the unborn child. Irritating to skin. Vapours may cause drowsiness and dizziness. Vapours may cause drowsiness and dizziness. 2.2 Label elements Labelling according Regulation (EC) No 1272/2008 [CLP] Pictogram Signal word Danger Hazard statement(s) H225 Highly flammable liquid and vapour. Fatal if swallowed. H300 H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H336 May cause drowsiness or dizziness. H361d Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure. H373 Precautionary statement(s) P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. P261 Wash hands thoroughly after handling. P264 Use personal protective equipment as required. P281 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ P301 + P310physician. Do NOT induce vomiting. P331 Supplemental Hazard none Statements According to European Directive 67/548/EEC as amended. Hazard symbol(s) R-phrase(s) Highly flammable. R11 Very toxic if swallowed. R28 R38 Irritating to skin. R48/20Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of harm to the unborn child. R63 R65 Harmful: may cause lung damage if swallowed. R67 Vapours may cause drowsiness and dizziness. S-phrase(s) **S9** Keep container in a well-ventilated place. S16 Keep away from sources of ignition - No smoking. S28 After contact with skin, wash immediately with plenty of water. S35 This material and its container must be disposed of in a safe way. S36/37 Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately S45 (show the label where possible). 2.3 Other hazards - none **3**. **COMPOSITION/INFORMATION ON INGREDIENTS** 3.2 Mixtures Formula C7H7N3O2S Classification Concentration Component Tosyl azide CAS-No. 941-55-9 >= 11 - <= 15 % Self-react. D; Acute Tox. 2; EC-No. 213-381-5 H242, H300 F, T+, R 5 - R28 **Tolue ne** >= 85 - <= 89 % CAS-No. 108-88-3 Flam. Liq. 2; Repr. 2; Asp. EC-No. 203-625-9 Tox. 1; STOT RE 2; Skin Irrit. 2; STOT SE 3; H225, H315, H373, H304, H336, H361d F, Xn, Repr.Cat.3, R11 - R38 -R48/20 - R63 - R65 - R67 For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16 4. FIRST AID MEASURES 4.1 **Description of first aid measures** General advice Consult a physician. Show this safety data sheet to the doctor in attendance. If inhale d If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. In case of skin contact Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician. In case of eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. If swallowed Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician. 4.2 Most important symptoms and effects, both acute and delayed Inhalation studies on toluene have demonstrated the development of inflammatory and ulcerous lesions of the penis, prepuce, and scrotum in animals. 4.3 Indication of immediate medical attention and special treatment needed no data available **5.** FIRE-FIGHTING MEASURES 5.1 Extinguishing media Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. **5.2** Special hazards arising from the substance or mixture Carbon oxides, nitrogen oxides (NOx), Sulphur oxides 5.3 **Precautions for fire-fighters** Wear self contained breathing apparatus for fire fighting if necessary. **5.4 Further information** Use water spray to cool unopened containers. **6.** ACCIDENTAL RELEASE MEASURES 6.1 Personal precautions, protective equipment and emergency procedures Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. **6.2 Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. 6.3 Methods and materials for containment and cleaning up Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). **6.4** Reference to other sections For disposal see section 13. 7. HANDLING AND STORAGE 7.1 Precautions for safe handling Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. 7.2 Conditions for safe storage, including any incompatibilities Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Recommended storage temperature: 2 - 8 °C Light sensitive. 7.3 Specific end uses no data available 8. EXPOSURE CONTROLS/PERSONAL PROTECTION 8.1 **Control parameters** Components with workplace control parameters 8.2 **Exposure controls** Appropriate engineering controls Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Personal protective equipment Eye/face protection Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Skin 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. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. **Body Protection** Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Respiratory protection Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). 9. PHYSICAL AND CHEMICAL PROPERTIES 9.1 Information on basic physical and chemical properties Appearance Form: liquid no data available b) Odour Odour Threshold c) no data available no data available d) рН Melting/freezing point no data available e) Initial boiling point and no data available f) boiling range Flash point no data available g) h) Evaporation rate no data available Flammability (solid, gas) no data available <u>i)</u> no data available j) Upper/lower flammability or explosive limits Vapour pressure no data available k) Vapour density no data available 1) m) Relative density no data available Water solubility no data available n) Partition coefficient: nno data available octanol/water Autoignition no data available temperature Decomposition no data available temperature Viscosity no data available r) no data available Explosive properties s) Oxidizing properties no data available t) 9.2 Other safety information no data available STABILITY AND REACTIVITY **10.** 10.1 Reactivity no data available **Chemical stability** 10.2 no data available Possibility of hazardous reactions 10.3 no data available Conditions to avoid Heat, flames and sparks. Extremes of temperature and direct sunlight. **Incompatible materials** 10.5 Strong oxidizing agents Hazardous decomposition products 10.6 Other decomposition products - no data available 11. TOXICOLOGICAL INFORMATION 11.1 **Information on toxicological effects Acute toxicity** no data available Skin corrosion/irritation no data available Serious eye damage/eye irritation no data available Respiratory or skin sensitization no data available Germ cell mutagenicity no data available Carcinogenicity IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Toluene) Reproductive toxicity no data available Specific target organ toxicity - single exposure no data available Specific target organ toxicity - repeated exposure no data available As piration hazard no data available Potential health effects Inhalation Harmful if inhaled. Causes respiratory tract irritation. Vapours may cause drowsiness and dizziness. May be fatal if swallowed. Aspiration hazard if swallowed - can enter lungs Ingestion and cause damage. Skin Harmful if absorbed through skin. Causes skin irritation. Eyes Causes serious eye irritation. Signs and Symptoms of Exposure Inhalation studies on toluene have demonstrated the development of inflammatory and ulcerous lesions of the penis, prepuce, and scrotum in animals. **Additional Information** RTECS: Not available **12. ECOLOGICAL INFORMATION** 12.1 **Toxicity** no data available 12.2 Persistence and degradability no data available 12.3 **Bioaccumulative potential** no data available 12.4 Mobility in soil no data available 12.5 Results of PBT and vPvB assessment no data available Other adverse effects **12.6** Toxic to aquatic life. **13. DISPOSAL CONSIDERATIONS** 13.1 Waste treatment methods **Product** Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contaminated packaging Dispose of as unused product. 14. TRANSPORT INFORMATION 14.1 **UN-Number** ADR/RID: 1294 IMDG: 1294 IATA: 1294 14.2 **UN proper shipping name** ADR/RID: TOLUENE, SOLUTION IMDG: TOLUENE, SOLUTION IATA: Toluene, SOLUTION 14.3 **Transport hazard class(es)** ADR/RID: 3 IMDG: 3 IATA: 3 14.4 Packaging group ADR/RID: II IMDG: II IATA: II 14.5 **Environmental hazards** ADR/RID: no IMDG Marine pollutant: no IATA: no Special precautions for users 14.6 no data available **15. REGULATORY INFORMATION** This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006. Safety, health and environmental regulations/legislation specific for the substance or mixture 15.1 no data available 15.2 **Chemical Safety Assessment** no data available **16. OTHER INFORMATION** Text of H-code(s) and R-phrase(s) mentioned in Section 3 Acute Tox. Acute toxicity Asp. Tox. Aspiration hazard Flam. Liq. Flammable liquids Highly flammable liquid and vapour. H225 H242 Heating may cause a fire. H300 Fatal if swallowed. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. May cause drowsiness or dizziness. H336 Suspected of damaging the unborn child. H361d H373 May cause damage to organs through prolonged or repeated exposure. Reproductive toxicity Repr. Self-react. Self reactive substances Skin Irrit. Skin irritation STOT RE Specific target organ toxicity - repeated exposure Specific target organ toxicity - single exposure STOT SE Highly flammable F T+Very toxic Heating may cause an explosion. **R5** R11 Highly flammable. Very toxic if swallowed. R28 R38 Irritating to skin. Harmful: danger of serious damage to health by prolonged exposure through R48/20inhalation. Possible risk of harm to the unborn child. R63 Harmful: may cause lung damage if swallowed. R65 R67 Vapours may cause drowsiness and dizziness. Toxic to Reproduction Category 3 Repr.Cat.3 Harmful Xn **Further information** For R&D use only. Not for drug, household or other uses. WARRANTY: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Lookchem shall not be held liable www.lookchem.com for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.