1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING 1.1 **Product identifiers** 4-Aminoazobenzene Product name CAS-No. 60-09-3 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] Carcinogenicity (Category 1B) Acute aquatic toxicity (Category 1) Chronic aquatic toxicity (Category 1) Classification according to EU Directives 67/548/EEC or 1999/45/EC May cause cancer. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. 2.2 Label elements Labelling according Regulation (EC) No 1272/2008 [CLP] Pictogram Signal word Danger Hazard statement(s) H350 May cause cancer. H410 Very toxic to aquatic life with long lasting effects. Precautionary statement(s) P201 Obtain special instructions before use. P273 Avoid release to the environment. P308 + P313IF exposed or concerned: Get medical advice/ attention. P501 Dispose of contents/ container to an approved waste disposal plant. Supplemental Hazard none Statements Restricted to professional users. According to European Directive 67/548/EEC as amended. Hazard symbol(s) R-phrase(s) R45 May cause cancer. R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. S-phrase(s) Avoid exposure - obtain special instructions before use. S53 In case of accident or if you feel unwell, seek medical advice immediately S45 (show the label where possible). This material and its container must be disposed of as hazardous waste. S60 Avoid release to the environment. Refer to special instructions/ Safety S61 data sheets. Restricted to professional users. 2.3 Other hazards - none 3. **COMPOSITION/INFORMATION ON INGREDIENTS** 3.1 Substances 4-Phenylazoaniline Synonyms Formula C12H11N3 Molecular Weight 197,24 g/mol Concentration Component 4-Aminoazobe nze ne 60-09-3 CAS-No. EC-No. 200-453-6 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. Consult a physician. 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. Consult a physician. Most important symptoms and effects, both acute and delayed 4.2 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. 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) 5.3 **Precautions for fire-fighters** Wear self contained breathing apparatus for fire fighting if necessary. **5.4 Further information** no data available ACCIDENTAL RELEASE MEASURES **6.** 6.1 Personal precautions, protective equipment and emergency procedures Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. **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 Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. Reference to other sections **6.4** For disposal see section 13. 7. HANDLING AND STORAGE 7.1 **Precautions for safe handling** Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. 7.2 Conditions for safe storage, including any incompatibilities Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Store under inert gas. Air 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** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Personal protective equipment Eye/face protection Safety glasses with side-shields conforming to EN166 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** impervious 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 particle respirator type N100 (US) or type P3 (EN 143) 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: powder a) no data available Odour b) Odour Threshold no data available c) no data available d) рН Melting/freezing point Melting point/range: 123 - 126 °C - lit. > 360 °C - lit. f) Initial boiling point and boiling range Flash point no data available g) Evaporation rate no data available h) i) Flammability (solid, gas) no data available j) Upper/lower no data available flammability or explosive limits Vapour pressure no data available no data available 1) Vapour density m) Relative density no data available Water solubility no data available Partition coefficient: nno data available octanol/water Autoignition no data available temperature Decomposition no data available temperature no data available Viscosity r) Explosive properties no data available s) Oxidizing properties no data available t) 9.2 Other safety information no data available **10.** STABILITY AND REACTIVITY 10.1 Reactivity no data available 10.2 **Chemical stability** no data available 10.3 Possibility of hazardous reactions no data available 10.4 Conditions to avoid no data available 10.5 **Incompatible materials** no data available Hazardous decomposition products 10.6 Other decomposition products - no data available TOXICOLOGICAL INFORMATION 11. 11.1 **Information on toxicological effects Acute toxicity** LD50 Intraperitoneal - mouse - 200 mg/kg Skin corrosion/irritation no data available Serious eye damage/eye irritation no data available Respiratory or skin sensitization no data available Germ cell mutagenicity Genotoxicity in vitro - mouse - S. typhimurium Host-mediated assay Genotoxicity in vitro - Hamster - Embryo Morphological transformation. Genotoxicity in vitro - rat - Liver Unscheduled DNA synthesis Genotoxicity in vitro - rat - Liver DNA inhibition Genotoxicity in vitro - mouse - lymphocyte Mutation in microorganisms Genotoxicity in vivo - mouse - Intraperitoneal DNA inhibition Genotoxicity in vivo - mouse - Intraperitoneal Sister chromatid exchange Genotoxicity in vivo - mouse - Intraperitoneal Micronucleus test Genotoxicity in vivo - rat - Intraperitoneal DNA damage Carcinogenicity Carcinogenicity - rat - Oral Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Liver: Tumors. Carcinogenicity - rat - Skin Tumorigenic:Neoplastic by RTECS criteria. Skin and Appendages: Other: Tumors. Carcinogenicity - mouse - Intraperitoneal Tumorigenic:Neoplastic by RTECS criteria. Liver:Tumors. Carcinogenicity - mouse - Subcutaneous Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Tumorigenic Effects: Uterine tumors. Liver:Tumors. Possible human carcinogen IARC: 2B - Group 2B: Possibly carcinogenic to humans (4-Aminoazobenzene) 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 May be harmful if inhaled. May cause respiratory tract irritation. Ingestion May be harmful if swallowed. May be harmful if absorbed through skin. May cause skin irritation. Eyes May cause eye irritation. Signs and Symptoms of Exposure To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. **Additional Information** RTECS: BY8225000 **12. ECOLOGICAL INFORMATION** 12.1 **Toxicity** Toxicity to fish LC50 - Oryzias latipes - 0,7 mg/l - 48,0 h 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 12.6 Other adverse effects Very toxic to aquatic life. **DISPOSAL CONSIDERATIONS 13.** 13.1 Waste treatment methods **Product** Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Contaminated packaging Dispose of as unused product. **14.** TRANSPORT INFORMATION 14.1 **UN-Number** ADR/RID: 3077 IMDG: 3077 IATA: 3077 UN proper shipping name 14.2 ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (4-Aminoazobenzene) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (4-Aminoazobenzene) IATA: Environmentally hazardous substance, solid, n.o.s. (4-Aminoazobenzene) 14.3 Transport hazard class(es) ADR/RID: 9 IATA: 9 IMDG: 9 14.4 Packaging group ADR/RID: III IMDG: III IATA: III 14.5 **Environmental hazards** ADR/RID: yes IMDG Marine pollutant: yes IATA: yes 14.6 Special precautions for users **Further information** EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids. **15. REGULATORY INFORMATION** This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006. 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture no data available **Chemical Safety Assessment** 15.2 no data available **16.** OTHER INFORMATION **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.