Material Safety Data Sheet

1. Identification of substance:
    Trade name: PX-478
    Product Number: M60227-2s
    Manufacturer/Supplier: Xcess Biosciences Inc.
    1804 Garnet Ave, Suite #396
    San Diego, CA 92109
    Phone: 1-858-866-8887
    Fax: 1-619-810-0718

2. Composition/data on components:
    Chemical Name: 4-[bis(2-chloroethyl)oxidoamino]-L-phenylalanine hydrochloride
    Hazardous Ingredient: PX-478
    CAS Registry Number: 685898-44-6
    Molecular Weight: 394.12
    Molecular Formula: C_{13}H_{20}Cl_{4}N_{2}O_{3}

3. Hazards identification:
    Hazard Description: Contains a pharmaceutically active ingredient. Substance not fully tested
    May be harmful if swallowed or inhaled. May cause irritation of the respiratory tract, eye, and skin.
    Handling should only be performed by personnel trained and familiar with handling of potent active
    pharmaceutical ingredients.

4. First aid measures:
    After Inhalation: If inhaled, remove to fresh air; if breathing is difficult, give oxygen; if breathing stops,
    give artificial respiration.
    After skin contact: flush with copious amounts of water; remove contaminated clothing and shoes; call
    a physician.
    After eye contact: check for and remove contact lenses; flush with copious amounts of water; assure
    adequate flushing by separating the eyelids with fingers; call a physician
    After swallowing: if swallowed, wash out mouth with copious amounts of water; call a physician

5. Firefighting measures:
    Suitable extinguishing agents: water spray, carbon dioxide, dry chemical powder or foam.
    Protective equipment: wear self-contained breathing apparatus and protective clothing to prevent
    contact with skin and eyes.
    Unusual fire hazard: emits toxic fumes such as carbon monoxide, etc.

6. Accidental release measures:
    Person-related safety precautions: cordon off area of spill; wear self-contained breathing apparatus,
    protective clothing and heavy rubber gloves.
Measures for cleaning/collecting: absorb solutions with finely-powdered liquid-binding material (diatomite, universal binders); decontaminate surfaces and equipment by scrubbing with alcohol; dispose of contaminated material according to Section 13.

7. Handling and storage:
Information for safe handling: Handle with care and avoid unnecessary exposure. Avoid inhalation. Avoid contact with eyes, skin, and clothing. Use protective equipment to minimize exposure. Avoid prolonged or repeated exposure. Handle compound in a laboratory fume hood.
Storage: store solid and solutions at 4°C or -20°C for longer time storage.

8. Exposure controls and personal protection:
Engineering controls: safety shower and eye bath; mechanical exhaust required.
Personal protective equipment as follows:
Breathing equipment: NIOSH/MSHA-approved respirator.
Protection of hands: chemical-resistant rubber gloves.
Eye protection: chemical safety goggles.

9. Physical and chemical properties:
Form: Crystalline solid; granular or powder
Danger of explosion: none
Solvent content: none
Solubility: DMSO

10. Stability and reactivity:
Stability: stable if stored as directed; avoid strong oxidizing agents
Conditions to avoid: protect from light and heat
Material to avoid: acids and bases
Dangerous products of decomposition: thermal decomposition may produce toxic gases such as carbon monoxide, carbon dioxide, and nitrogen oxides

11. Toxicological information:
RTECS No: not available
Acute toxicity: not known
Primary irritant effect: not known
On the skin: not known; may be an irritant
On the eye: not known; may be an irritant
Effects of Short-Term Exposure: not available
Effects of Long-Term Exposure: not available
Sensitization to Product: not available
Carcinogenicity: not available
Reproductive Toxicity: not available
Teratogenicity and Embryotoxicity: not available
Mutagenicity: not available
12. Ecological information:
Ecotoxicity: not known

13. Disposal consideration:
Dispose of in accordance with prevailing country, federal, state and local regulations

14. Transport information:
DOT:
Proper shipping name: none
Non-Hazardous for transport: this substance is considered to be non-hazardous for transport
IATA class:
Proper shipping name: none
Non-Hazardous for transport: this substance is considered to be non-hazardous for transport

15. Regulations:
Code letter and hazard designation of product:
Hazard-determining components of labeling:
EU Risk and safety phrases:
• S24/25: Avoid contact with skin and eyes
• S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
• S28: After contact with skin, wash immediately with plenty of water
• S36/37/39: Wear protective clothing, gloves and eye/face protection
• R28: Very toxic if swallowed
• R38: Irritating to skin
• R41: Risk of serious damages to eyes
• R48: Toxic; danger of serious damage to health by prolonged exposure
• R62: Possible risk of impaired fertility
• R63: Possible risk of harm to unborn child

16. Other information:
The above information is believed to be correct based on our present knowledge but does not purport to be complete. For research use only by trained personnel. The burden of safe use of this material rests entirely with the user. Xcess Biosciences disclaims all liability for any damage resulting from use of this material. For research use only. Not for use in diagnostic or therapeutic applications.

End of safety data sheet