

Synthesis of Alum

1. Second Quiz (Density / Alum)
2. Collect lab-report (Density) and Pre-Lab (Alum)
3. Lecture on Today's Experiment
4. Demonstrate how to perform gravity filtration, suction filtration and Bunsen burner

Lecture:

Goal: synthesize alum from Aluminum can

- Learn to perform laboratory technique of purification by filtration
- Calculating theoretical yield and percent yield

Chemical formula for Alum : $\text{KAl}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$

Alum – use in medical, cooking, water treatment etc,.....

Chemical RXN – Handout



→ step 3-4 : Dissolve metal in excess strong base KOH to form a complex ion and H_2 gas (bubbles)

→ use gravity filtration to filter the solution while it's still hot, keep the filtrate (What is the filtrate)



→ step 8: Neutralize excess $-\text{OH}$ in the filtrate with H_2SO_4 → precipitation will form



→ Step 9: more acid is added to dissolve $\text{Al}(\text{OH})_3$ solid to form a soluble $\text{KAl}(\text{SO}_4)_2$, this is not really an Hydrated Alum

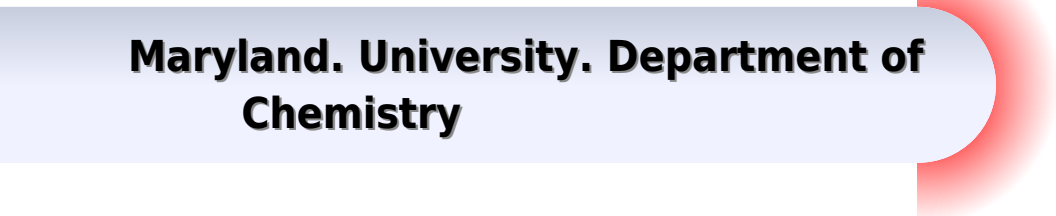


→ this can be filter using suction filtration and dry

- Student must wait after 48 hours to weigh their sample and must be done prior the next class meeting (penalty will be applied)
- Prefer to the class schedule to check when the lab will open, you should come 1 hour after the lab start and must ask for permission (WEAR GOGGLES!!!!)

Alum Synthesis Lab Answers

**Maryland. University. Department of
Chemistry**



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Table of Contents Alum Synthesis Lab Answers

1. Understanding the eBook Alum Synthesis Lab Answers
 - The Rise of Digital Reading Alum Synthesis Lab Answers
 - Advantages of eBooks Over Traditional Books
2. Identifying Alum Synthesis Lab Answers
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Alum Synthesis Lab Answers
 - User-Friendly Interface
4. Exploring eBook Recommendations from Alum Synthesis Lab Answers
 - Personalized Recommendations
 - Alum Synthesis Lab Answers User Reviews and Ratings
 - Alum Synthesis Lab Answers and Bestseller Lists
5. Accessing Alum Synthesis Lab Answers Free and Paid eBooks
 - Alum Synthesis Lab Answers Public Domain eBooks
 - Alum Synthesis Lab Answers eBook Subscription Services
 - Alum Synthesis Lab Answers Budget-Friendly Options

6. Navigating Alum Synthesis Lab Answers eBook Formats
 - ePub, PDF, MOBI, and More
 - Alum Synthesis Lab Answers Compatibility with Devices
 - Alum Synthesis Lab Answers Enhanced eBook Features
7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Alum Synthesis Lab Answers
 - Highlighting and Note-Taking Alum Synthesis Lab Answers
 - Interactive Elements Alum Synthesis Lab Answers
8. Staying Engaged with Alum Synthesis Lab Answers
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Alum Synthesis Lab Answers
9. Balancing eBooks and Physical Books Alum Synthesis Lab Answers
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Alum Synthesis Lab Answers
10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
11. Cultivating a Reading Routine Alum Synthesis Lab Answers
 - Setting Reading Goals Alum Synthesis Lab Answers
 - Carving Out Dedicated Reading Time
12. Sourcing Reliable Information of Alum Synthesis Lab Answers
 - Fact-Checking eBook Content of Alum Synthesis Lab Answers
 - Distinguishing Credible Sources
13. Promoting Lifelong Learning
 - Utilizing eBooks for Skill Development
 - Exploring Educational eBooks
14. Embracing eBook Trends
 - Integration of Multimedia Elements

- Interactive and Gamified eBooks

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