

EXPERIMENTAL INVESTIGATION



SUMMARY

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|------------------|--|-------------|------------|
| OBJECTIVE | To determine the effect of temperature on the rate of reaction. | | |
| THEORY | According to the collision theory, the rate of reaction increases with an increase in temperature because the number of effective collisions increases. | | |
| APPARATUS | Conical flask | Thermometer | Stop watch |
| PROCEDURE | A fixed amount of potassium dichromate solution was mixed with a fixed amount of potassium iodide solution at different temperatures. The time taken for the appearance of a fixed amount of iodine was noted. | | |

RESULTS AND DISCUSSION

The following table shows the results of the experiment:

| Temperature (°C) | Time taken (s) |
|------------------|----------------|
| 20 | 120 |
| 30 | 60 |
| 40 | 30 |
| 50 | 15 |

From the above table, it is clear that the rate of reaction increases with an increase in temperature.

CONCLUSION

The rate of reaction increases with an increase in temperature.

PRECAUTIONS

1. The temperature of the reaction mixture should be maintained constant.

2. The amount of reactants should be fixed.



QUESTIONS

1. How does the rate of reaction change with an increase in temperature?

2. Why does the rate of reaction increase with an increase in temperature?

**DEPARTMENT OF TRANSPORTATION
SUMMARY**



REPORT NO. DOT-OST-001
REPORT DATE 1/15/00

PROJECT TITLE

PROJECT NUMBER DOT-OST-001
PROJECT FUNDING DOT-OST-001
PROJECT STATUS Completed
PROJECT PERIOD 1/15/00 - 1/15/00

PROJECT OBJECTIVES

The project was designed to evaluate the impact of the proposed rule on the rail industry. The project was completed on 1/15/00.

DOT-OST-001



PROJECT CONTACT
DOT-OST-001